* PROVISIONAL PROCEEDINGS*
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Table of Contents

1. Touching the machines: immaterial value added on sonic electronic devices

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Abstract: The article intends to interpret economical consequences from some musical practices of technological research whose main gesture is alter or intervene on the circuits or on the operation of sonic electronic devices. Such practice will be understood here as a *desecration* (Agambem) of the original objects, adding value on each altered instrument, now turned into an unique device. This operation is understood as an enrichment of the objects by the immaterial labor realized by the artists, who now become from consumers to producers of electronic instruments.

Keywords: sonic eletronic devices, circuit-bending, gambiarra, glitch, opening of the Black Box, Flusser, immaterial labor, desecration.

1   Introduction

The aim of this article is to investigate economic organizations created by musical practices articulated with technological research on the contemporaneity. Such practices are based on the opening of the "black box" (Flusser, 2002) of several electronical devices (computers, cd players, synthesizers, electronic toys, etc), using many technics as *circuit-bending[1]*, *open coding*, *gambiarra[2]*, *glitch,* among others. The text's intention is to reflect about the singularity of those music-technological practices: while performances of investigations on electronic devices, they *bend* the musical work's concept, engendering other possibilities of economic value and labor organization on music.

2   Flusser's "Black Box"

The term "opening of the black-box" refers to Vilém Flusser's concept concerned to the ways of use of *apparatuses.* In the present text, the term will be suited to description of the listed electronical devices. For the Czech philosopher, *apparatuses* are machines whose main function is not the production of consumer goods – that means, goods with an utility value – but of *symbols*. While consumer goods can contain a symbolic charge whose apprehension is beyond consumption (clothes, for example, can be taken either as clothing or as identification of social groups or personal preferences), the *apparatuses* produce objects whose primary function is to create symbols.

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[1] Circuit-bending is a term created by the artist Reed Ghazala (Ghazala, 2005) to describe his practice of "random eletronics" (idem, p. Xiii) in eletronic sound gadjets. Such practice, disseminated among brazilian musicians, consists in manipulate directly, with the hands or objects, the device's circuits in a way to create unpredicable electrical conections, resulting in unespected sound patterns.
[2] In spite of being a brazilian term used for all kind of adaptation or repair wich not follows a technical norm, it has been, since the middle of 2000's, a term used in the brazilian sphere of arts (*Cf.* Gambiólogos, 2009) and of music (*Cf.* Fenerich & Obici, 2009; 2014). It indicates an non-normative appropriation of instruments, languages and sonoroties. *Cf.* Obici, 2014.

Such symbolical production has always existed in Western history: books, musical instruments and art objects carry messages or guide the perception. The apparatuses, however, are machines produced by industry which incorporate at least two main features:

1) By encapsulating technical and scientific knowledge, tend to have a complex operating mechanism. The analog camera, for example, includes both concepts of optics, chemistry, and by the notion of framing and perspective, concepts from the History of Art; the articulation of those elements into a single device is an operation at the same time complex and synthetic. On the other hand, cameras have a simple interface which does not specify their "inner" operation mode.

2) Due to this simplification, the devices produce signs automatically, "obeying a program" (Flusser, 2002, p. 77). The user is restricted to a finite number of manipulations and of potentialities given by the interface, which is simplified by this relationship. In turn, the results of their manipulation will be molded by the device's design.

The user has only access to its *input* and *output*: for example, he or she frames images on the camera whose result will be the set of those images on paper - and on doing so the camera automatically produces visual signs. A machine whose main feature is the automatic production of signs and that does not allow access to the generating processes of its products is named by Flusser as *black box*.

3 Opening the Black Box of sonic eletronic devices

Sonic electronic devices have features of Flusser's black boxes: they allow access only to their input and output; they are automatic machines that allow the production or listening of sonic signs; they are industrially manufactured and encapsulate technical and scientific concepts. But when *circuit-benders*, *gambiarra* makers, *glitch* musicians and experimental luthiers act to change the machine's operation,   they enter into a field not defined by the equipment's program. They open the black box. In doing so, they do not play with pre-programmed elements, limited to a number of possibilities, but explore sounds that have no categorization or previous mode of performance. They touch blindly for sounds that would not be found if they use the devices as indicated on instruction handbooks.

Although artists do not follow the device's program, their actions do not aim to illustrate the technical and scientific concepts hidden into the black boxes. The research is of the same nature as that of the common user: they are looking for sounds; they are as dilettantes as any other person. It is not necessary to have a technical-scientific knowledge that supposedly would guide their action. There is also no need for a formal musical training: what is sought here is to obtain non-standardized sounds. The artists have a polytechnic education (Benjamin, 2012, p. 199), ie, non-specialized and permeated with knowledge from several fields.

4 Shifting the musical goal

A consequence caused by the search for unusual sonorities is the detachment from the need for closed works. Only in a few cases, as in some artists of Glitch Music (Anthony, 2016), the investigation on devices will be succeeded by a collection of sound materials obtained along the research, which could be inserted in a composition - usual procedure in the field of concrete and electroacoustic music (Cf. Fenerich, 2012; Mion, Nattiez & Thomas, 1982). But even these cases, the mark of difference between those works and other forms of electronic music is to highlight new sounds discovered by the gesture of non-normative handling of the devices - which opens to other relevant consequences.

The first is the focus on the realization process and not on the result, which removes from the product its finite character whose duration have an specific time and has the narrative of a musical form. The investigations are unrepeatable, non-figural and with no time limits; in a word, no longer *musical works* (cf, Goehr, 2007). In such practices, the pleasure of discovery can be shared with the audience in the performances, as in Pierre Schaeffer's tale "The Boy and the Blade of Grass" (Schaeffer, 1966): the main activity is to find new sonorities while *touching* the bended machines. But outside this scene, the "pure", or the acousmatic listening of such performances (as in a recording) loses the partnership between the discoverer and the public. Guide elements for a musical work (temporal boundaries, the hierarchy of sound materials and formal directions) are missing. Thus, obtaining a definite object to be marketed (a disc, an audio file) is not an inherent result of the process. And as pointed out by Attali (1989), without this element a central aspect for the music as commodity is lost.

On the other hand, the search for new potential in ready-made devices or in prototypes is a creative work *on* the devices, ie, a contribution on a *fixed capital*. In this case, the fixed capital is formed by the projects and prototypes whose intellectual property belongs to their manufacturers. Therefore, there is an inversion from manufacturers to users, who are now working on the device's design; the transfer of *immaterial labor* (Negri, 2015, p 64) to such adulterated objects adds a strong symbolic value that did not happen when they are taken as serially manufactured products – since each new intervention creates an unique event on the device, or an unique musical instrument. Such individualization occur by a number of factors: first, each original machine has its history - his time of running - that interferes either on the final sonorities as in the response to the interventions. Second, while nonstandart, the investigations are more or less random, impredicable. Third, the investigations, since not concerned to the reproduction of other similar devices or without commitment with an specific musical language, are free of errors, being a "leap into the void".

5 Device's desecration

The common approach of the apparatuses is to permute their preprogrammed signs. The artist's approach studied in this text is to explore non-defined sonorities. In turn, the product of their research does not address the creation of works, and it is significant that some artists insist on the performative gesture of exploitation of electronic devices, sharing

with the audience their findings. The scene is an invitation to the device's *desecration* (Agamben, 2007), exploring, in a appropriation of Benjamin's concept, their *display value* (Benjamin, 2012). But what was hidden? Certainly not the representation of some transcendent divinity, but something worshiped by technical-scientific societies – the techniques materialized by the device's mechanisms obscured by the black box's ideology.

The gesture of *desecration* is amplified by the fact that artists evoke the polytechnic education mentioned above, since their action is made without an expert knowledge - type of musical production that puts the devices (before limited in their methods of operation) in an amplified and democratic potential of creation – since anyone who has access to such devices is able to carry out those changes.

By intervening in the devices, those artists reinsert on them an interest that does not have the logic of consumption, which gives an "no-desecratable" property to the object, as if its owner would want it to remain intact (Agambem, 2007, p. 72). On the contrary, the main purpose is to produce a continuous of new sonorities, in a process of intensification of device's desecration. At the edge, such practice reaches the complete destruction of the original object.

6 New added values on devices

On the other hand, by inserting interventions, those artists create immaterial values that individualize the machines (Negri, 2015, p. 64), which become dynamic and ephemeral. By doing so, they return to such mass produced objects an authenticity that was missing in their common use; they create on them the impossibility of being reproduced – in a way, they recreate an *aura* (Benjamin, idem, p. 183). Thus, in a first operation of sense, those machines lose their commodity character, since they are corrupted and are not being reified as an industry product: they don't remain intact, being desecrated. But in a second operation of sense, they now tend, in their singularity, to be goods with more value then before, as unique objects enriched by an intangible work – a consequence of the *immaterial labor* they have suffered. Such unique objects have the potential of being *the* top musical commodity of the age of *Biocapitalism*. On this field they do not have any competitors: the musical work itself has been losing its value as commodity since the birth of digital media, with its unlimited potential of reproduction. On the contrary, altered musical machines are unique, not copyable and filled with the authenticity created by the artist's research – main features of nowadays high valuable commodities, goods whose value is enriched by immaterial labor.

The turn of the altered devices (non-commodities by definition) into commodities depends, of course, on a market interested on it. Anyway, what is clear is the user's turning point from consumers to producers, taking part of the role of manufacturers and of the fixed capital, once belonged exclusively to the owner of device's copyright. This turning point in the field of capital assets, as Negri has analyzed, is typical from the *Biocapitalism*, in which part of the capital's ownership is transferred to the working class. This class, in the past only responsible to make and to consume the commodities, now get also part of the role of its creation and development.

Will this new responsibility be profitable for the artists? I still cannot answer to this question, but their gesture of desecration creates, at least, a common field of technological research, in which any person can contribute. Spread on internet, such knowledge can be democratically accessed, being itself an economy of musical making.

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2. Soundcheck with Nicolas Collins

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Abstract.   The proposed article is based on an interview made with Nicolas Collins at Itaú Cultural, São Paulo, on July 4th, 2012. Collins came to Brazil as keynote speaker for the IV Music Science Technology Seminar, organised by the Nuson research group at the University of São Paulo (USP). Besides being one of the keynote speakers, Collins also performed one of his compositions, *Salvage (Guiyu Blues)*, in the event's closing concert. The interview took place inside the auditorium, right after Collins' soundcheck, while waiting for the venue doors to open. On that occasion, the authors were in the process of writing their master's degree dissertations[1] and Collins' work, artistically and theoretically, was a reference on several levels. Thus, the conversation touched upon several topics, which the authors believe are of interest to Sonology research. In this article, the authors transcribe excerpts from the interview and attempt to discuss and expand these topics, aiming to bridge the gaps between the words and works of Collins and some contemporary authors that address similar subjects.

Keywords: Experimental Music, Black Box, Craftivism, Prosumption, Planned Obsolescence, Relational Aesthetics.

Q: In this age of so many high-tech tools to create and to produce music, what is the main appeal of experimental techniques like Hardware Hacking and Circuit-Bending for a musician?

Nicolas Collins: *Well, a tool is a tool. And even if someone is using, say, the latest Mac Powerbook to record their music on, they could also be singing. And the voice has been around for a long time. I mean you wouldn't necessarily call it a new High-tech tool. So the value of a tool to music isn't necessarily directly related to its newness or its power in a measurable, quantifiable way.*

On the other hand, i think that there is a sense in a kind of post-mechanical age, the age when electronic devices replaced mechanical devices as the most important innovations in our technological world. We've gone beyond going from a horse to an automobile, and engines and airplanes, this is no longer the big radical change, the big radical change is computers, and cell phones, and the internet, and file exchange, and doing business over the net. But with that shift, we've lost another level of understanding of how those things work.

In other words, not everyone is a veterinarian, but if you have a horse, you sort of have an idea of how it works, it walks around, it eats food, it shits, this is sort of familiar to you, right? The car, a little more difficult, in the early days, people really understood their cars, people had to fix their cars themselves, and, they modified them, in America we have Hot Rods, people in the 1950's and 1960's would customize their cars. These days I don't think that anyone can open the hood of a new Honda and figure out what's going on underneath it. Because it's also largely a computer. All of the exhaust, transmission control, everything else like that. So, I think, in our life today we have less understanding

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1Fernandez, 2013 and Lima, 2013.

of the things we depend on. We don't really know how the technology that we depend on works.

And I think that part of the appeal of things like Circuit-Bending and Hardware Hacking and kind of low level work in music is that a computer represent such a contrast from something like a snare drum. And the desire to understand it is very great. I think that you wanna know something about your musical tools. You understand your snare drum, you don't understand your laptop. And that's like going from the horse to the rocket without the car in between. Ok? So, I think that, some people reacted to that, by deciding to open up what they have and look inside.

Q: Open up the Black Box...

NC: *Open up the Black Box. You know, in English there's always this sticker on the back of your TV or whatever it is that says "No user serviceable parts inside". And that's kind of the Mantra of our life these days. And when I was young my father would change the washer on the faucet when it leaked or fix the washing machine if something got stuck in it, you know? People engaged with their tools and people don't do that anymore. So maybe this is, I think this is an attempt to get a better understanding of what those things are that you depend upon.*

We would like to bring up the notion of **black box** in this context based on Flusser's usage of the concept to describe the operation of apparatuses and our role of 'functionaries' - users that provide some information on their input and wait for an output - in the operation of said apparatuses: "what is going on within the complex remains concealed: a 'black box' in fact." (Flusser, 2006: 16). In such relationship the users of apparatuses "control a game over which they have no competence." (idem, 27). Nevertheless, 'black box' is employed elsewhere without regard to philosophical reference, such as is the usage in the context of the IT community and industrial engineering (Rutsky, 1999: 110). Rutsky also employs the metaphor to describe what he calls "the 'ideal' type of high-tech exterior" (idem), an enclosure that conceals all the complex network of processes hidden on its inside.

Agamben (2009: 14) unfolds the concept of **apparatus** as proposed by Michel Foucault to encompass daily gadgets such as cellphones, computers and older technologies such as writing and language itself, which constitute a class of beings that exist in opposition to the class of living beings and have in some way "the capacity to capture, orient, determine, intercept, model, control or secure the gestures, behaviors, opinions, or discourses of living beings" (idem). The concept of apparatus in Flusser and in Agamben are similar in the sense that users are neither able to control its inner workings, nor to determine the reasons that structure the apparatuses' existence, and are captured in its modes of operation.

Q: So, do you see a connection between movements like DIY culture and this low-tech approach to music?

NC: *Yeah, I think so, you have this magazine, called Make Magazine, in America, and it's very nostalgic to me. When i was young there were magazines for hobbyists, people who would make things for no reason other than to make them. In other words, who needs to*

cut up a piece of wood to make something to keep your books from falling over? Who needs to make and ashtray for their father, for their birthday? Who needs to make a wallet out of a piece of leather and a sewing thread? But people did this, as a hobby, just something to do and they don't anymore. And when a magazine like Make Magazine comes around, some of the projects there are very practical. Here's a way to, I don't know, make a homemade electric guitar, very cheap, or here's a way to make a contact microphone to amplify things, but some of the projects are like crazy projects that you do simply to show that you can do it: here's a gun that shoots marshmallows across the room. Who needs that? No one needs that, but the fact that you can build that, means that the act of building it is somehow important.

This last comment, about the importance of the act of building, remits to the notion of **craftivism**. Kevin Henry (2010: 94-95) argues that particular challenges brought about by the current pace of capitalist production - such as climate change, overpopulation and global terrorism - can be partially addressed, by newer generations, with a new definition of craft. This new definition of craft which Henry refers to is given by Sennet in *The Craftsmen*: "the desire to do a job well for its own sake" (apud Henry 2010: 95). This definition leads to a **craftivistic** approach - that of the open source software, peer-to-peer production - in which one-size-fits-all strategies of education change in order "to focus on knowledge communities united by the goals of 'problem-finding' and problem solving." (Henry 2010: 95)

Henry proposes that this new approach is dependant on trial-and-error dynamics and self-sustainability. This new craftsman is no longer craftsman by necessity, given that there is a mass-produced solution for every demand, but rather craftsman as a lifestyle choice, which is an approach that is structural to Hardware Hacking[2] and Circuit-Bending[3] scenes.

Q: The experimental attitude to discover things.

NC: *Yeah, and as you say it's that idea of Do it yourself. In other words, we had this moment like we are all asleep, and we stopped doing things ourselves. And we woke up and everything was being done for us. You know what I mean? We went to sleep and we were there, and we woke up and things are different. And I think that now it's after lunch. And we've said hang on, I think i should be doing something.*

Q: I am no longer a consumer only...

NC: *Yeah!*

Q: I can be also a producer...

NC: *Right! And I think that, it's obviously a tiny percentage of people. You know? In our world, in our sort of Post-Industrial world. I think someone from a truly rural, agricultural society would look at like Make Magazine, Circuit-Bending and say: This is crazy, why would you waste your time doing that when you can buy this stuff? We have to work all*

2Collins, 2006.
3Ghazala, 2005.

day, doing these things. But it's all a question of what you do, because you don't have to do it.

This perspective presented here by Collins can be thought of as a reaction to a process witnessed in the creative industries, particularly since the 1980's: a transformation of creators into consumers of technological goods for artistic creation. This is a process widely discussed within the music production sphere by Théberge (1997: 27), who traces its beginnings back to the age of Piano and Sewing Machine mail order catalogs all the way to the marketing strategies employed in the sales of sampling hardware and sample libraries (idem: 187).

Ritzer and Jurgenson discuss this balance and the growing centrality of consumption within economy through the notion of **prosumption**, a relationship between production and consumption in which consumers are engaged in parts of the production process (Ritzer and Jurgenson, 2010: 18). Although observable since at least the 1950's, prosumption reaches new levels of effectiveness with the introduction of the Web 2.0 and the age of user-generated content.

This is part, of course, of a wider tendency described by Bernard Stiegler as an era of **general proletarianisation**. He uses the word proletariat referring "to those who have lost their knowledge – their *savoir-faire*, their *savoir-vivre*, and their theoretical knowledge" (Stiegler 2010: 17). In a context of general proletarianisation, practices such as Hardware Hacking can be considered to be a process of de-proletarianisation, that is, "the recovery of knowledge". (idem: 11).

Q: So, it's doing by the will to do it? And there is no utility to it?

NC: *Well, as I say, there is sort of this hobbyist aspect. Sometimes it is utterly useless, it's just for the sake of doing something fun, doing something different. I think when I do projects with workshops in Hacking, it's very very practical. I focus on things that actually give you something that you don't get by going to a shop. Ok? So that's a little bit like making beer at home, not because it's cheaper, but because it's better than what you can buy, right? Which is, we make contact microphones in a workshop, and you know use a couple of dollars worth of supplies, you spend 15 minutes doing it and it can be a fantastic instrument, it can change your life. I know people who've been making music with contact mics since 1978, I mean, it was such a change for them it became their instrument. Ok? If we turn a radio into an instrument, you can play by just putting your hands on top of the circuit board, you know? Your world is, you're surrounded by electronic instruments: you have keyboards, you have guitars, you have signal processors, but this lets you play an electronic circuit in a very very different way, I mean, there are no other instruments like this, with the exception of the crackle box[4]. You've made it, the one that you are making sounds different from the one next to you, because the guy next to you has a different radio and it behaves differently. You end up with an instrument that if it works for you, you would never be able to find anywhere else, so, it's as useful as anything can be in music. Which is to say, it's never as useful as say food or water, but if you are a musician, it seems pretty damn good.*

4See http://www.crackle.org/

Q: What is the point when it becomes an instrument? I mean, there is a process, and in some point you leave the hacking side of it, and of course you can hack as you play and vice versa, but what do you think is the moment or, what makes it become an instrument?

NC: Well, I don't think there is a single spot. I mean, when you buy an electric guitar you might have to put the strings on before you would call it an instrument. And some people might have to tune it, before they would call it an instrument. And if it's untuned i can say i can't play my music with this so it's not an instrument, until it's in this state. Ok? If you build some electronic circuit, or let's say you hack or you bend a toy, you have a toy, and it's essentially a stupid toy that is it's doing what it's supposed to do, it's making noises which are supposed to keep a child happy, but that isn't necessarily the noises you wanna make in stage, so you do some kind of a modification to it, and you try this, you try that, and in a certain point you say "Ah! This is a sound that I could use in my music!" You've crossed some threshold, where you say It's no longer a toy and now it's an instrument. Ok? But one of the things about building an instrument is that because you brought it to life, you know that that's a variable point, when it became an instrument. So you may finish a gig with it, and then say, "Oh! But, you know, I can add this". And then you take it home and you open it up and you change something else. And now it's a new instrument. Or it's an improved instrument. I suppose it's a little bit like the way electric guitar players are forever experimenting with pedals. And a pedal is as much part of an electric guitar as a string is. And for a week, a month, a year, or ten years, a guitarist will work with a particular collection of pedals, and then suddenly say, Oh! I just discover this one, this is so cool, I've made a new instrument! You know?

Here Collins touches upon the **ludic** aspect in some Experimental Music practices. Huizinga, for instance, argues that music is deeply rooted in the ludic element:

> Making music bears at the outset all the formal characteristics of play proper: the activity begins and ends within strict limits of time and place, is repeatable, consists essentially in order, rhythm, alternation, transports audience and performers alike out of "ordinary" life into a sphere of gladness and serenity, which makes even sad music a lofty pleasure. In other words, it "enchants" and "enraptures" them. In itself it would be perfectly understandable, therefore, to comprise all music under the heading of play (Huizinga, 1949: 42).

Iazzetta (2001: 209) suggests that western concert music, on the other hand, has lost its connection to the ludic element through its institutionalization. This process took place as result of the linear reasoning of the modern world and permeated music with a strict grammar, the Tonal code, which imprisoned creators in a very strict set of rules of composition - counterpoint, harmony and so on - that still haunts music students all over the world.

Experimental music of the mid-20th century, however, attempts to bridge this gap by engaging with the ludic element in music-making:

> The sensuous aspect of musical performance, in which bodies and instruments interact in an intense manner, is substituted by a more sensory aspect, in which the body is mediated in a more restrained manner by means of keys, mouse controllers and joysticks. What's common between these two possibilities is a rescue of the ludic aspect in music-making. (Iazzetta, 2001: 208)

In this sense, experimental approaches proposed by practices such as Hardware Hacking do not appear necessarily as a total rupture with traditional techniques, but as a "comprehension and utilization of these techniques in the manner of a game". To experiment, then, "is to test the fallibility of what we know, in a last instance, technique itself." (Iazzetta 2011: 7)

Q: You request that the toys or equipment for your workshop[5] are about ten years old, which has got to do with the miniaturization of circuits. How do you relate your approach to hacking with this unavoidable movement towards circuits that are smaller and smaller?

NC: I mean, you look at Reed Ghazala, the man who is basically credited for inventing Circuit-Bending[6], maybe true, or may not be true, but the point is that he happens to be the right age and have discovered this interest at the right time in his life. Where he was surrounded by toys that were at the perfect moment in electronic evolution for bending, for modifying. If he had been ten years older, he would have been in the situation that David Berman and Gordon Mumma or myself were in, where the only technology to bend, in the sixties, was amplifiers and radios. There were no electronic toys, a toy was a baseball bat or a ball. Okay? And if he was ten years younger, he would be forced to look at this chinese toys which when you open them up, have no variable components. All the electronics are under a little black dome, you can't open it up, and there is literally nothing you can change on it. All you can do is, say, plug it into a louder amplifier or put it into a different box, ok? So, it was just one of those moments in history where technology and somebody's idea came together at the right time, and there are probably thousands of moments in history when it wasn't the right time. When I started doing these workshops, which grew out of teaching I was doing at my own school, it was when you could still find toys anywhere that would do this. And over the last eight years or so it became more difficult. Because toys die very very quickly, you know? Children get bored with them, they throw it out, or they break them. So now the new toys aren't really so bendable. And the old ones, there are enough people doing circuit-bending now that you don't find them cheap in a shop, you get them on e-bay and you pay what they're worth.

So I think that feel, that particular way of working has changed somehow, it's no longer a real scavenger kind of artform, now it's a little more sophisticated, and it involves a greater investment in money. I mean, the projects, the work that I do when I do the workshops and my book, it covers a much much wider area than just circuit-bending, because I knew at the beginning that one was always gonna be dependent on this very particular set of technologies, so I do things like, say with just loudspeakers and radios, which are kind of everywhere and they are still being made, and it's true that the old ones are better, but you can still work with new ones. Speakers are speakers, piezo discs are going to exist until they stop making noise in appliances, so that's a relatively stable thing. We design circuits with integrated circuits, we build oscillators and things like that. That is gonna become a little bit more difficult, because the electronics industry is going over to what's called surface mount chips[7] which are much much smaller and you can't experiment with them quite as easily, but it can still be done. I think that my personal interest is in making sure

5Collins held a workshop on the day after this interview, hosted at Intermeios in São Paulo.
6For a discussion on the difference between Circuit-Bending and Hardware Hacking see Fernandez, 2013.
7See more at: https://en.wikipedia.org/wiki/Surface-mount_technology.

that I remain as technologically neutral as possible, so that I don't have to keep myself with the supply of a very particular type of device in order to keep this things going.

The practice of inducing a steady replacement of electronic wares and thereby the acquisition of newer models is known widely as **planned obsolescence**, which relates to the availability of "bendable" toys described here by Collins. As Hertz and Parikka (2012: 245) argue:

> the logic of new media does not mean only the replacement of old media by new media, but that digital culture is programmed with the assumption and expectation of a short-term forthcoming obsolescence. There is always a better laptop or mobile phone on the horizon: New media always becomes old.

The authors point that two thirds of the electronics discarded in the US still works. For them, planned obsolescence acts in a micropolitical level as the metaprogram of sorts for the consumerist society:

> It is not only an ideology, or a discourse, but more accurately it takes place on a micropolitical level of design: difficult-to-replace batteries in personal MP3 audio players, proprietary cables and chargers that are only manufactured for a short period of time, discontinued customer support or plastic enclosures that are glued shut and break if opened. In other words, technological objects are designed as a "black box"—not engineered to be fixable and with no user-serviceable parts inside. (idem: 245-246)

In this regard, practices such as Circuit Bending and Hardware Hacking have the potential of subverting planned obsolescence strategies, albeit subtly. By opening these black-boxes, usually discarded ones, and resignifying them, one engages in

> not only an art methodology that addresses the past, but one that expands into a wider set of questions concerning dead media, or what we shall call zombie media — the living dead of media history and the living dead of discarded waste that is not only of inspirational value to artists but signals death, in the concrete sense of the real death of nature through its toxic chemicals and heavy metals. In short, what gets bent is not only the false image of linear history but also the circuits and archive that form the contemporary media landscape. (idem: 247)

Caleb Kelly defines such practices as *Cracked Media* and relates them with *media archeology*, arguing that they allow us to "reconstruct the various developments in media history that led to the current situation", therefore bypassing "the problem of a technological determinism that sees technology as driving practice rather than practice and use driving technology" (Kelly, 2009: 38). Another point brought up by Kelly concerning Cracked Media is that "it also avoids the problematic celebration of new technology in which the novelty of the technology itself is the focus. Here we understand that all technologies have a web of histories associated with them" (idem).

Q: I guess that the technologies you use are more lo-fi than the toys, because you make a distinction in your talk from software and hardware, and a toy has a lot of software there, and the loudspeaker doesn't. It's rougher, more lo-fi.

NC: *It's hard to say, a loudspeaker is a very sophisticated piece of technology, it's got all these moving parts, and it uses electromagnetism, which is a very cool phenomenon. A*

piezo disc is a more modern device for making sound but it's much simpler, it's actually a cruder device, you know it's... So it's hard to say, It's more modern, yes, but it's anyway simpler. Some of these toys indeed, every now and then I look at a cheap toy, and maybe one of those greeting cards that when you open it up says "Happy Birthday!", and I think: Boy, in 1992 you would need a ten thousand dollars Emax E-Mu Sampler to do that with, you know? And now it's in a card that has almost no value, you know? That indeed some of these incredible simple toys, these cheap toys, are very very sophisticated little computers, you know? And yet we design circuits with integrated circuits that are very kind of fundamental digital logic circuits that were a tremendous breakthrough in the 1970's when they were invented. And we still can do extraordinary things with them, as a building block, and in a sense, that's what inside your macintosh. I mean, you know that's what's making all the miracles in your life possible we're just getting at the very, very, very lowest element in the pyramid that builds up your macintosh.

I mean, for example, in the last 12 to 18 months i've come across a number of artists who are using hard drives for sound creation and they are not using them as data drives they are using them as spinning disks, as if they were a form of turntable. [**Q:** It's a bass] *It's a bass, and some of them are actually playing records on them like grooved records. Some of them are using, they are listening to the sound of the files on that disk as if spins, they are sort of taking the signal from the head. Some of them are using another kind of tape head on it. Some of them are playing the platter as if it were a record, but just grinding away against the needle, I mean, but what they are working with is the kind of physical essence of this thing that's in every computer you have and that when it dies you throw it out and it's an unbelievably sophisticated technology, right. You know, there is an example of something you wouldn't have seen in maybe five, ten years ago, because this drives were still too expensive for, I don't know, I mean, It's just, I know it's a new thing. right? I, before I ever thought of: wow I could take this toy and transform it into an instrument or something, I always modified the electronic devices I bought to do music with. In other words, when I bought an effect box like a cheap guitar pedal, I always say: Oh, I could put a switch in here that would let me to select between two different outputs, two different parts of this circuit, you know? Or, everytime I buy a small mixer, to use as a road mixer, I end up adding like extra inputs to it, or I make some jacks on it so I can get a direct out from a mic pre-amp if it doesn't have one, or I change an effect send so it can be pre-fader. I do these things not because I want the world's craziest mixer, but because I need that, to make it useful for me on stage. I could either buy a larger, heavier, more expensive mixer, or I could buy a cheap, small one, do a little bit of work and get something that does a better job for me. So I think that for me I - and it may be really stupid, I don't know maybe that I waste a huge amount of time doing this - but I feel as I'm always motivated to personalize the things that I use to make my music with.*

Q: In this sense, then you're ruling against this tendency towards normalization, towards standardization, bringing more the irrational...

NC: *Well here's a thing, you do this all the time with your computer, in other words, if you have a computer, or you have an iPhone, you're putting particular apps on it, you're using particular software in your computer, you might have certain programs on your computer and someone else might have different ones. You are doing that! You are just not thinking of it in the mechanical world. It's very easy to do on software, and I think that's actually*

one of the beautiful things about computers, is that, in the old days a computer was a computer, it was just one thing, and it did certain jobs and nobody messed with it, they just ran their programs. And after the advent of the personal computer you got so that everybody have different software on their computer, everybody was doing something different, "I'm making music with it", "oh, I'm designing buildings with it", "oh, i'm writing my term paper in it", and people have different interests right? I think that it's just that, again, we don't learn, you've somehow learned how to buy software and install software on your computer and this is significant, because, for example, your parents probably aren't as good at buying and installing software, so, you've learned this, but what you haven't learned is how to, say, open-up a Mackie mixer and rewire it so that all the sends are pre-fader, or how to drill holes in the case and add some extra jacks. You know, somehow, that you didn't learn, so you are going to have to teach yourself if you think that is interesting, just like you taught yourself how to install software. You didn't go to a class that taught you to install Ableton on your computer, you've just figured it out and you went to the website. So, certain knowledge is easier to reach, and less expensive to experiment with. If you screw up installing software, you call the company and they send you another copy or something. If you screw up and you drill a hole through the Mackie that destroys the circuit board, Ah!, you will have to spend money to replace it. But it's the same basic idea.

Q: But, in terms of the irrationality, or the randomness of the hack, then there is a great difference, no?

NC: *Yeah, some hacks are more random than other, though. In other words, that's the thing, I've done hacks to equipments of mine that's incredible stable. I mean, when you, generally speaking, use a mixer for live performance you want to kind of know what it's doing, you don't want a mixer that randomly turns on and off signals. Then it's not a mixer. Then it's something else, then it's like an interactive music system. Ok? Then it's an instrument. But then you'll design something that it's supposed to be less predictable, and indeed that´s one of the places where hardware does a very nice job.*

Q: Like your presentation here, this piece....[8]

NC: *You know, I do this piece, I cannot do it without 6 people. You need 12 hands. You can't do it with two. And everywhere I do it, it comes out sounding different. Because people have a different style and a different way of working. And because a lot of it has to do with accidents. The accidents are different in each place, right?*

Q: And why do you think tendency towards the accident? Towards this emergence of the liveness?

NC: *Well, for me it's because I'm actually not very interested in repeatability. I mean it's my aesthetic. But what I'm interested in as a person who is making music on stage is unpredictability, it's sort of the essence of improvisation. And I've worked in various types of improvisational settings since I was very young. I mean, as a relatively young musician. I've worked in rock settings, I've worked in sort of jazz settings, I've worked in some free improvised music community, I've worked with people who would not call what they did*

8The piece presented was Salvage (Guiyu Blues) - http://www.nicolascollins.com/texts/salvagescore.pdf. A video recording of this performance can be seen at: https://youtu.be/eJGA1Q3eLn8.

improvisation, but it had elements of what I call improvisation in it. You look at the music of Alvin Lucier, you look at the music of Christian Wolf, these are open form scores, this is a form of improvisation. At this point in my life what's interesting me is unstable electronics. Electronics that you cannot control very easily and that make very interesting breakpoints in them. This thing that I talked about non-linear agency that you move the probe a little bit and instead of just going MMMmmmmm.... it goes MMmcrdshjdfskd..... and it makes some radical break. And it's right there like a fraction of a millimeter change. I'm interested in those types of chaotic situations and I'm very interested in collective music making. I really like the idea of having twenty or thirty people making music together. But i'm not particularly interested in listening to them play notes on their instruments. That doesn't interest me so much. That if they are to do it with musical notes, 25 people improvising notes in a room it's ok, but it's not gonna keep me going for very long. So I'm interested in merging this semi-chaotic electronic world with groups of players to create a kind of an improvised electronic ensemble, that has this high degree of chaos and unpredictability in it. And then figuring out ways to sort of shape the performance to give it some kind of form. And that's what this little piece does. I mean, it's just ten minutes long, but, you have some taste of that.

Collins' interest in collective music making strategies, which structure some of his pieces such as *Salvage*, can be related to a tendency noticed by authors like Flusser and Bourriaud towards a **relational** aspect observable in artistic and political agency:

> The task is to reintegrate a society that has disintegrated into the infinitesimal. Such formulations of contemporary activism are intended to show how firmly contemporary revolutionaries are rooted in the dimensionless universe, on the grounds of hallucinatory, image-producing abstractions. (Flusser, 2011: 68)

As French art curator and critic Nicolas Bourriaud puts it: "the essence of humankind is purely trans-individual, made up of bonds that link individuals together in social forms which are invariably historical" (Bourriaud, 2009: 25). In this respect, a tendency is perceivable in DIY practices to mutate from established Do-It-Yourself approaches towards Do-It-Together or Do-It-With-Others, in which artists tend to work in a more interdisciplinary way, based on the collaboration of different individuals. In such collaborative projects, there is an intense exchange of information, building platforms for the creation of new ways of doing: "collaborative projects require a level of humility and understanding of the ultimate mission. Only then do they have the ability to be truly transformative."[9]

Q: I see, there's one thing you talked about earlier when you're saying about the hard disks, and then talking about your piece, and what relation do you see between all of this that we've talking about and a need to include the body in the process, because a lot of, it seems to me, that has got to do with a bit of that, a bit of, sort of getting away from the sort of the spectator seat and engaging in, but not only mentally...

NC: *Right, in other words, I'd say i need twelve hands to play that piece. I can't put twelve probes on two pairs of hands and get the same texture, because i can't move them with the same degree independence, and I can't have different pairs of them making decisions in a different way. So for example when you six are up there one of you might be moving*

9Dimatos, 2010. Available at: http://www.psfk.com/2010/04/diwo-as-the-new-diy-psfk-conference-good-ideas-on-changemaking.html.

very fast while the other is moving very slow. And that's a very difficult thing for me to do as a musician. To try to move twelve objects simultaneously at very different speeds with different touch, right? But that's very easy to do with a group of players.

Q: But it gets more complex...

NC: *It gets more complex, because you get six brains doing that work, right? Now, in terms of the presence of the body the fact is that, what's interesting is not just the six brains, it's the brain-hand connection, because hands are amazing things, if you've ever studied the physiology of a hand and how many axis of movement it has on it. Especially if you do any work in robotics, you realize how crude motorized systems are, compared to way a hand works, in terms of the axis of freedom in movement. So, every now and then I think: Oh, I should do an automated version of one of my ideas. Where it doesn't use people. It somehow happens automatically, software makes the decisions and makes things happen, or there's some sort of mechanism that does it. But, of course it never has the variation that a human body interacting has. There's the genius of the hand and the idiot of the hand, right? And a piece like this uses both the genius and the idiot. Which is, you don't really know what you're doing up there. You're sort of scruffing out and then you hear something, and you say: Oh! I can push a little bit this way... I little bit that way…* [**Q:** there's no virtuosity involved?] *There is, actually, if you just go Mm Mm Mm Mm on it's not going to be at all interesting. You get into a feedback loop very quickly, and you become a virtuoso. You become a player, very quickly, from being a non-player to a player, and then, the fact that matter is the longer you work at it the better you get. And I know, because sometimes I've done this piece and I've just had five minutes with the musicians. And I say, this is how it works, quick test, Pup pup pup, now we do a run through. And they don't have the time to practice by themselves. Other times I'm able to do what we did today everyone had a minute to try and get a sense of what happens. Now, whoever is the first two people to play the piece they can always hear what they are doing. By the time five and six come along, they haven't practiced before, they have no idea of what is happening, because they can't hear as well what they are doing. Because the texture is so thick. So I think that virtuoso may be a too grander word, but you very definitely tell the difference between having had a little bit of practice and having had no practice. So that's kind of the first step towards virtuosity.*

The intention of the authors to illustrate Collin's answers with some further discussion and references is an attempt to display the scope of possible interpretations to the Hardware Hacking and Circuit-bending scenes. Such practices seem to emerge at the crossroads of several tendencies in the contemporary world, or more specifically, within the hyper-industrial context of urban dwellings as artistic strategies to deal with the amount of technological and informational surplus that have become part of daily routines. In this respect, what we've tried to accomplish in this paper was to shed a light in this complex network of influences, as an aid to equip ourselves with the tools necessary to better understand this production. As Jacques Attali (1999, 11) puts it: "The noises of a society are in advance of its images and material conflicts. Our music foretells our future. Let us lend it an ear".

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3. Some considerations towards a more critical practice in Mobile Music

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Abstract. This paper proposes to reflect on the production of experimental electronic music mediated by mobile devices. The term Mobile Music has been in frequent use since the mid-2000s, as a result of a group of researchers-- mainly connected to English institutions-- developing the Mobile Music Workshop between 2004 and 2008. The academic and artistic research presented at this event involved works and applications mediated by various types of devices; among many subjects the common focus of researchers and artists was to explore the mobility of electronic interfaces in interactive situations in urban space. The definition of Mobile Music is somewhat vague; among different classifications-- which could be considered more open or closed characterizations of the genre-- we can find something in common: the significance of movement, or the willingness of displacement. The release of corporate mobile devices at the end of the last decade, such as smartphones and tablets, caused a drastic change in the perspectives within the genre: artists and researchers started to give much more attention to objects of consumption, rather than situations in which mobile sound could be experienced. Having this turning point in mind we could consider that Mobile Music started working much closer to the market logic and became more dependent on it, due to the adoption of commercial devices as well as researchers interested in developing new products. These interfaces follow an assymetric model of consumption between possibilities of production and acquisition. (STRIPHAS,2011).Thus in this text we speculate about other alternatives to practices of Mobile Music, which could be somehow considered more critical.

1   Mobile Music as a Genre

The term mobile music refers to a small niche in music production mediated by electronic media. Its boundaries are diffuse and often contradictory; the definitions made by the community of musicians, programmers and musicologists are conflicting.

The first attempt to define Mobile Music as a genre came from a group that created the Mobile Music Workshop (MMW), which took place in Europe and North America between 2004 and 2008. The event was organized by researchers connected to British institutions, mainly Atau Tanaka, Frauke Behrendt and Layla Gaye, and has become a key point for the establishment of this practice in the field in experimental music. Perhaps we should consider the work developed at the MMW as a first phase of Mobile Music as a genre, because there is a drastic change in the research with portable media in the late 2000s, and the reflections proposed by this group of researchers also covers part of the sound art production of the 80s and 90s, such as the works by Christina Kubisch, Janet Cardiff and

Benoit Maubrey, which could be considered Mobile Music.[1] In the article "Mobile Music Technology: Report on an Emerging Community" the group defines Mobile Music as a new field that discusses issues of interactive music in mobile situations, using portable technology. According to the authors, the term covers any musical activity using portable devices that are not fixed in a specific location, thus making interactions more dynamic, and creating new participatory possibilities in mobile scenarios. The devices could have sensors that would allow distributed networking, knowing which would be the context of the interaction, detect the user's location, and all could be combined with technologies incorporated in the environment (GAYE et al., 2006). Some examples of types of work which were developed in MMW in that period are: sonification wireless network signals, music remixing between users in remote places and exchanging of sound files between users connected by LANs. To take Sonic City, from Gaye, Ramia Mazé and Lars-Erik Holmqvist, as an example. This work, presented in 2003 in Gothenburg, aims to create a personal soundscape which produces a dialogue between the participant headphones and the environment. The participants would manipulate an electronic sound synthesis through their movement and the data captured from their surroundings.

This first definition-- besides being quite fetishistic in relation to the means of production, since it emphasizes the potential "magical" elements of wireless networks, mobile devices and surveillance systems--   does not cover the production shown at MMW as a whole. Many artworks kept the Italian stage format and used mobile devices as musical instruments in fixed situations. Perhaps the most relevant theoretical result developed by the group would be the classifications proposed by Behrendt, which determines three areas of operation of Mobile Music: technological, social and geographical. The author considers that these three aspects are deeply intertwined in complex situations wherein this first generation of artworks occurred. In her view these three points were connected and present in works of Mobile Music assuming that: technology would be a way to create new types of listening and interaction through sensors embedded in mobile devices; social implications would consider that it would be possible to engage viewers with different types of interaction in performance or installation situations which would be more participative; and the activities related to geography would be based on analysis of how urban space influences the process of musical creation, either by objective questions, such as capturing data via sensors, or subjective issues, such as   observing how it would be possible to propose approaches that would interfere in the daily routine of participants, resulting in new aesthetic experiences.

These fields of action mentioned by Behrendt are some of the indicators that led us to observe a turning point in the production of Mobile Music at the end of the last decade, more specifically after 2007, when more sophisticated mobile devices produced by major corporations began to circulate in the market.

2   Mobile Music as a commodity

In the article "Updating the Classifications of Mobile Music Projects", David John builds on the fields of actions observed by Behrendt more objectively: social (interaction with the

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1works such as Electrical Walks by Kubisch, Audio Walks by Cardiff and Audi Ballerinas by Maubrey.

audience, communities and mobile listening habits), geographical (interactions with the space where the work happened) and technological (practical technology development), and makes a survey of academic publications associated with Mobile Music between 2003 and 2012 presented at MMW and the conference New Interfaces for Music Expression (NIME). By analysing the percentage chart of articles published over the years divided between these three areas, it is remarkable to see an upward curve in works dealing exclusively with technology after 2007. In 2010 articles were presented that were solely about technology implementations. From the article another two statistics emerge, showing a shift in focus of the production of Mobile Music; firstly, the number of mobile interfaces developed especially for artwork had decreased dramatically since 2003, when 100% of the works presented had their own hardware. In 2009 no work with authorial device was presented. This means that almost all artworks become dependent on the means of production produced by major business corporations. John also makes a subdivision of the research dedicated to differentiating technology works which are related to products (descriptions of software and hardware for commercial and research purposes) and artefacts (software and hardware description for artistic purposes). The graph of these items in relation to the years of the Congress, shows that the curves of artistic artefact production and product development   become almost symmetrically opposite over the years. In the beginning, 100% of submitted articles were devoted to artworks, while from 2009 the percentage of articles on product development has never been lower than 70%; in contrast since 2008 the number of articles on artefacts for Mobile Music has never exceeded 20% of publications.

Through powerful new hardware, more versatile operating systems and an oligopolistic market structure, the field of Mobile Music became attractive to the software market for mobile media. New applications and musical gadgets have multiplied since 2007. If we look at software virtual stores we will see a long list of items - virtual instruments, effects processors, sequencers, musical games, samplers, generative music apps, musical toys, tuners, tape recorders, workstations (DAW), etc. - and this market directly affected the artistic and academic production. Technopositivists discourses proliferated in academia, and the language of academic research and marketing became seriously intertwined:

> The mobile music evolution has been catalysed by the advancement and proliferation of the smartphone, portable and compact computing devices with built-in physical sensors, persistent connectivity, and location awareness. In particular, the iPhone brought about an inflection point in mobile devices, and transformed the notion of mobile device into a general computing platform. Looking back only five short years (to 2008), we might attribute the success of the iPhone to several reasons. First reason: "killer hardware" (...). (WANG, 2014:487)

In this article excerpt Ge Wang uses the exact same key terms that were introduced by Steve Jobs at the release of the iPhone. The context in which Wang uses the word "evolution" seems quite out of place, because the author does not refer to a practice that depends solely on technological development but a use of electronic media applied to artistic actions. Therefore, from our point of view, thinking of an "evolution" of the Mobile Music, there would be seen, above all, an artistic evolution. This discourse may be viewed as a symptom that shows a change of artistic interest and academic community of Mobile Music, which started to produce more commodities, rather than developing artworks.

Soon several groups specialized in performances with tablets and smartphones appeared, the "i-Ensembles", many of which demonstrate a high level of virtuosity in interpreting orchestral pieces of the Baroque and classical period. Moreover, it was not long before the first concertos for large orchestra, with tablet as a soloist, were seen. Witnessing such a level of virtuosity, if we choose to forget for a moment the existence of the capitalism maintenance mechanisms, we could believe in the possibility of the beginning of a new tradition of virtuoso musicians of the touch screens and gyroscopes. However the firmware updates, the Digital Right Management (DRM), many restrictions on use, and software and hardware obsolescence do not let us forget that these "new instruments" can not be treated like any other instrument. These devices are a surface of a controlled consumption market model. Søren Pold and Christian Andersen summarize the concept of Controlled Consumption, developed by Ted Striphas, in three key points: 1 - A cyber industrial structure that integrates and manages the production, distribution, exchange and consumption   which is developed around a product; 2 - consumption is controlled by algorithms that monitor closely the behaviour of users and the effects of advertising strategies through tracking and surveillance; 3 - The product is designed with a maximum length time, which limits its functionality (planned obsolescence). This model privileges the monopoly of large corporations, and restricts its users to quite a few options and many conditions. These constraints determine a system with asymmetric aspects of production and consumption, and therefore these devices become, fundamentally, vehicles of acquisition. As Pøld and Andersen observe, even artists and developers who contribute to these platforms with cultural content have to accept many conditions that make them a kind of "specialist consumer", requiring licenses to develop their products, and who, in addition to sharing profits with the platform, must go through a series of algorithmic filters that determine whether their production would be suitable for the digital platforms or not. In the case of the relationship between musicians and apps, we can not think of corporate mobile interfaces in the same manner that we treat other electronic instruments - theremins, modular synthesizer, ondes Martenot, effect pedals, etc. - because they are fundamentally based on the logics of planned obsolescence and consumer platforms. They are ephemeral media. Excessive control over copyright also affects the forms of creation, limiting, or banning, practices of appropriation and reinterpretation of cultural content. The musician is subsumed by the system of which the mobile devices are a part. He becomes a victim of a capitalist Stockholm Syndrome, and even while suffering the consequences of a market ruled by planned obsolescence, continues to use and consume the devices, and thus becomes a form of advertisement for these technologies. It appears to be a dead end.

3 Production and reproduction of mobile sound

The idea of a mobile experimental music, at first, could bring something much more poetic and revolutionary, It is no coincidence that the authors of the International Situationists, especially Guy Debord, are recurrent references in articles, work descriptions and titles of Mobile Music artworks. The idea of inhabiting the public space, exiting the terrain of artistic institutions, exploring the playful aspects in situations of everyday life as well as promoting collaborative creation processes, makes up a large part of the imagination of the Mobile

Music community. In 1984 Shuhei Hosokawa, with his definition *Musica Mobilis*[2] is already trying to see the walkman as a trigger of types of urban "*Gesamtkunstwerks*", in which the listener can hear and interact theatrically with different sound layers that are in the urban space that would leak by the headphones. The listener through a polyphonic perception of the environment would be responsible for a kind of spontaneous musical composition/improvisation.

It is interesting to observe that Hosokawa associates a device defect to highlight one possibility of resignifying the aural public space. If the user had headphones that would completely isolate the external sound, and thus work perfectly, it would be an impediment for the realization of polyphonic listening proposed by the author. Hence, Hosokawa explores the precarious materiality of the media to develop his theory, unlike the texts of researchers associated with the MMW and Ge Wang, cited above, that accentuate the qualities of the devices, which are generally idealized due to a marketing discourse.

In our perspective, to work with sound and mobility is itself to make an apology to the precariousness of audio reproduction fidelity. Until today, sound fidelity and portability are inversely proportional. Thus, defending a precarious sound fidelity reproduction is to promote not only the mobility of sound, but the mobility of listeners and producers. The materiality of sound mediated by portable devices is poor. These are compositions of trebly soundscapes, distorted and with low definition; something very divergent from the visual design of the products that are sold. After all, the "bass" is heavy, dependent on large speakers, and the memory of the hard drives is small if we consider the multitude of tasks that have converged in the form of applications on these devices. To speculate on the possibility of a more critical practice of Mobile Music – as opposed to Mobile Music that depends entirely on the means of production provided by large corporations – it is necessary to hear the reality of the ubiquitous sounds of everyday life, the proletariat of sound reproduction, and observe the interface of cultural developments and the economics of digital content in different social contexts.

The ubiquity of mobile sound implies social situations and forms of listening in which the interface becomes a means of aesthetic expression, and often political expression. The opposition between high-fidelity and portability makes the issues of mobile listening an integral part of an economy of precarious sound. "The MP3 is the most common form in which recorded sound is available today"(STERNE, 2012:1). The success of this type of compression occurred mainly because of two elements: small size of the files, allowing users to store more songs in less space and facilitate the exchange of data via the network, and of course, the form in which we listen to music. As pointed by Fernando Iazzetta music encoded MP3 is heard in cars, mobile phones and laptops. Often these devices promote types of disinterested listening, composing a soundtrack for other activities. This posture makes the failures of compression practically unnoticeable, after all other noises external to the recordings, such as the urban space, and the limited spectral range of speakers, transform by itself this kind of listening into a low fidelity experience between original source and its representation.

2"music whose source voluntarily or involuntarily moves from one point to another, coordinated by the corporal transportation of the source owner(s)" (HOSOKAWA, 1984:166)

The technique of removing redundant data in a file is called compression. The technique of using a model of a listener to remove additional data is a special kind of "lossy" compression called perceptual coding. Because it uses both kinds of compression, the MP3 carries within it practical and philosophical understandings of what it means to communicate, what it means to listen or speak, how the mind's ear works, and what it means to make music. Encoded in every MP3 are whole worlds of possible and impossible sound and whole histories of sonic practices. (...) The MP3 encoder works so well because it guesses that its imagined auditor is an imperfect listener, in less-than-ideal conditions. It often guesses right. (STERNE,2012:2)

These less-than-ideal situations presupposed by the MP3 inventors are constantly present in the everyday life of cities: street vendors, the sound of cars and loudspeakers of laptops and mobile phones. This range of devices that distort the original recordings and add noises to the urban space, in general, do not reproduce low frequencies. According to Wayne Marshall, these are the elements that define the current Treble Culture. In this context, mobile phones have become one of the main interfaces on which to consume and play music.

Mobile listening directly influences the sound environment. The devices become a type of acoustic demarcation in space. One of the recurring terms in Mobile Music artistic practices is to create "space awareness" usually done through sensors - such as a GPS - that scan data from the place where the work occurs. However, the simple practice of public listening could also be a way to propose a "cultural space awareness". For example, to see people listening to music without headphones in public transport could be a common scene. In some cities, such as São Paulo, it is an illegal activity:

<div align="center">Law No. 15.937, 23rd OF DECEMBER, 2013</div>

Art. 1 In order to preserve the acoustic comfort
of users and combat noise pollution, the use of musical or audio
equipment, except through the employment of headphones,
 is prohibited inside all collective transport
vehicles , both public and private, operating within the municipality,
regardless of the agency or
entity responsible for the administration of said vehicle.

In England, a particular word has been created for this type of activity, called Sodcasting. The word is a neologism joining "sod" and "broadcasting", so from that we could understand what it would mean literally. However if we have look at the Urban Dictionary, it gives a much more specific meaning to it:

Verb - The act of playing music through the speaker on a mobile phone, usually on public transport. Commonly practised by young people wearing polyester, branded sportswear with dubious musical taste.

Delia was exposed to hip hop for the first time last Wednesday, when, on the 75 bus to Catford, a youth was sodcasting from the back seat.[3]

3Definition of sodcasting: http://www.urbandictionary.com/define.php?term=Sodcasting

That is, according to these definitions, violators of acoustic comfort have a very specific profile. Marshall notes that very often criticism towards this practice expresses a desire for social order and brings class, race and age in an implicit or explicit way into debate. The listening environments become conflict zones. The author cites some discussions on the subject on online forums, where it is possible find comments such as:"(sodcasting) is no different from the '80s, when people used to walk around with a "ghettoblaster"[4] on their shoulders.".The boombox was an important medium for the development of hip-hop culture, and is an object that makes clear that public listening could be considered a form of claiming public space.

> "My radio, believe me, I like it loud / I'm the man with a box that can rock the crowd
> Walkin' down the street, to the hardcore beat / While my JVC vibrates the concrete
> I'm sorry if you can't understand / But I need a radio inside my hand
> Don't mean to offend other citizens / But I kick my volume way past ten
> (…)
> Get fresh batteries if it won't rewind / Cos I play everyday, even on the subway
> So get off the wall, become involved / All your radio problems have now been solved"
> (I can't live without my radio, LL Coll J, 1985)[5]

This excerpt from the lyrics of "I can't live without my radio" expresses a little bit of what was the function of the boombox in the 80s: a form of appropriation of public space, including public transport. Something very similar to situations sodcasting. The journalist Dan Hancox considers the interventions with mobile devices a form of politicised resocialisation public culture through collective listening. To think this resocialisation of a sound culture through mobile listening is also a way to prioritize portability in relation to sound representation fidelity. In this type of precarious reproduction, the important thing would not be to listen to the complete contents of a recording, but, rather, perceive a hue of a musical genre and its social values, which might propose the "awareness of a space" in conflict. In the field of public transport in São Paulo, even after being forbidden to listen to music without headphones, this hue of musical genres continues to invade the daily lives of bus lanes. Showing that even in a case of such a poor sound representation it is still possible to be a cultural sign.

The forms of reproduction influence directly the production processes of sound. According to Greg Milner since portable radios became popular, musicians started to think about how they could create content that would sound better in that context, which at the time took the form of AM radio broadcasts played through small speakers. This movement caused the development of a specific type of sonority, that sounded much better on portable radios than other devices, that could reproduce audio with higher fidelity. Due to this aspect, when we hear some of the mixes made by producers such as Phil Spector and the Motown label in "ideal" conditions, the recordings may appear to have a reduced sound spectrum. They are mixes designed for specific media. The same phenomenon occurs in the current Treble Culture.

4Boombox

5link to I can't live without my radio: https://youtu.be/pNbk4bEwkCg

In the economy of precarious sound there is a continuous feedback between production and reproduction, turning defects and mediated listening situations into artefacts of the creation process. In the same context, sodcasting, Marshall notes that part of the popular genre in the UK, Grime, uses the reiteration of MP3 compressions as a process to create sonic textures that work perfectly in speakers of laptops and mobile phones. For example the tack R U Double F[6], by Ruff Sqwad, which is composed of beats compressed several times and made available to download only in a very low definition format MP3 (64 kbps). In this case, the process becomes a stylistic signature of the genre, incorporating the compression artefact as technique. This process inverts the idea of digital audio fidelity; after all, the low definition file is the most faithful representation of the piece. In Brazil, tecnobrega is a clear example of an economy sustained by the constant flow of production and exchange of sound material. The composition process, as described in a superficial way in the documentary Good Copy Bad Copy is directed by music producer and is based on downloading music in MP3, treating the material and adding the bass line and sounds that characterize the genre. The same material returns to the network and often the process is repeated; the beats are remixed again, compressed and reused.

The sound is gradually dematerialized. The use of sound degradation as a procedure does not stop in itself; it is not just an audio effect, but a way of showing part of the infrastructure of production and reproduction. The form in which the content is manipulated and presented shows the system in which the artwork is inserted. From the MP3 downloads to sodcastings on buses.

4   Final remarks

This economy of Music in motion seems to be much richer if compared to the artistic community restrictions and definitions of Mobile Music. Perhaps Mobile Music, in the way it appeared as a genre and as perpetuated in conferences and festivals of art and technology, is not something in itself, but only a convergence of many practices of experimental electronic music that already existed. The compositional approaches are a result from the same process of convergence that mobile media went through in the last century. In the case of academic Mobile Music, experimental music and sound art practices such as experimental luthiery, network music, sound walks, circuit bending, multi-channel diffusion, hardware hacking, live coding, etc. are simply transferred to mobile devices. The same aesthetic proposals and methodologies are transferred directly to the new media, and when they are integrated into an artwork with some success, the inherited process is reframed due to the mobility provided by, or for, the instrument and form of listening.

However it does not seems very much comparable to the cultural and economic complexity of which these devices are a fundamental part. So perhaps this lack of definition of genre, or limitation, is not a problem in itself. The real discussion that permeates this issue is the need for building a macroscopic awareness of a system in which the interfaces are inserted, and which suggests that the community working with art mediated by electronic technologies, could establish, considering the situations of consumption and production, music beyond the concert halls and galleries. While working

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6link to the song R U Double F: https://www.youtube.com/watch?v=Q3C5NMEek-E&feature=youtu.be

in the key of innovation which often transpires in the experimental music field as an exchange of the search for the "new sound" pursued by the vanguards of the twentieth century in the quest for new technology, without considering the specificities of each medium and what is its real social impact, we will continue doing more of the same, regardless of the media we use.

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4. Between vinyl and mp3: music and memory

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Abstract. The development of twentieth-century vinyl recordings and the contemporary MP3 culture have profoundly transformed the processes of memorization, recording, dissemination, reproduction and reception of music. In order to investigate the narratives that are created in these settings, in their constructions of memory and history, the sound studies field requires a new conceptual, methodological, institutional and discursive approach. The concepts of "disputed memory" and "equivalent memory" were developed in order to diagnose and systematize these challenges and to try to shed light on some aspects of this new conceptual scenario.

There is a long-standing tradition of pleasure and obsession being central to the collecting of musical registers, and these appear to be the defining aspects in the creation of sound archives, constructed within different perspectives on memory, history and forgetting. Let us consider two cases that illustrate a few similarities and many differences between the practices and habits of the *analogue* a n d *digital* worlds[1] regarding the creation, dissemination and preservation of sounds:

1. Almirante was one of the most important collectors and organisers of a specific kind of memory of Brazilian popular music from the analogue world.[2] From the late 1930s until 1958, Henrique Foréis Domingues, known as Almirante ('the Admiral'), was at the helm of a series of radio programmes whose aim was to present to the listeners "the good and true" Brazilian music, but without establishing clear boundaries between rural and urban popular cultures. He used to say: "I make use of the radio to take to listeners all over Brazil what Brazil has most viscerally of its own".[3] Based on these principles, Almirante designed and created dozens of programmes that broadcast via several radio stations in Rio de Janeiro and São Paulo, but which had national reach. By means of radio broadcasts, he exalted artists, consecrated key dates, clarified events, periodising and organizing them in a particular diachrony and thematic narrative. His programmes were based on extensive research and were carefully scripted, giving rise to his vast personal archive, which would go on to become a landmark resource for researchers. In 1965 his archive was sold to the Guanabara state government (today the state of Rio de Janeiro) and incorporated into the Museu da Imagem e do Som do Rio de Janeiro (Museum of Image and Sound of Rio de Janeiro - MIS/RJ). Soon after, the phonographic archive of the journalist Lúcio Rangel, containing approximately 16 thousand 78-RPM records, was also bought by the museum's management. Thus the first institutional archive containing part of the memory of 20th-century popular and urban musical culture was created. Almirante remained the curator of the entire archive, and since then it has experienced diverse difficulties and problems in organizing its collection and keeping it alive, a situation that persists to the present day.

1On the concepts of analogue and digital, see Lévy (1999: 21–30).
2The narrative that follows in this paragraph is based on Moraes & Machado (2013).
3Cited in Moraes & Machado (2013: 294).

2. Kenneth Goldsmith is currently the largest collector and organiser of avant-garde audio-visual production available in the digital world. Professor of Contemporary Writing at the University of Pennsylvania (USA), in 1996 Goldsmith created the project "UbuWeb" (http://www.ubuweb.com), bringing together in his website a staggering collection of images, vocal recordings and videos, amongst other media, by creators and critics from the period of so-called modern art and avant-garde experimentation, such as James Joyce, Samuel Beckett, Theodor Adorno, Jean Cocteau, Roland Barthes, Luciano Berio and John Cage. Between 1995 and 2010 Kenny G., as he is known in the radio world, hosted programmes on WFMU (The New Jersey-based freeform radio station), in which he presented an extension of his work as a professor, writer and editor of the "Ubu Web" project. The origins of his immense archive lie in his obsession with collecting:

> My grandfather's collection made me into a collector. But since he did books, I did records. It began with The Beatles when I was a kid. When I was a teenager, I loved Black Sabbath and sold all my Beatles records. When I became a hippy I loved the Grateful Dead and sold all my Black Sabbath records. When I became a punk, I loved the Sex Pistols and sold all my Grateful Dead records. When I became an avant-gardist, I loved John Cage and sold all my Sex Pistols records. I never sold my John Cage records but eventually I bought back all my Beatles, Black Sabbath, Grateful Dead and Sex Pistols records. I learned late in the game that a collector should never sell anything, for all acquisitions constitute a personal history, a way to trace one's intellectual life. (Ràdio Web Macba, 2012)

The UbuWeb website is where Goldsmith pushes the boundaries of copyright law by freely sharing files. The website gives free and universal access to works which had "disappeared" or were exclusively collectors' items, the contents of which were restricted to a private sphere. Permission for use is only negotiated on a case-by-case basis when the creators (or their representatives) demand it. In 2011 the website was attacked by hackers, remaining down for a few days, which led Goldsmith to transfer his providers to Mexico (Conde, 2011: 1).

Analogue-digital

In contemporary Brazil, a project similar to Kenneth Goldsmith's, but on a much smaller scale, is that of the blog *Um que tenha* (UQT), managed by Fulano Sicrano (the hacker persona of its unknown creator). In the last decade, this blog has become a reference point for researching and sharing on the Internet Brazilian commercial popular music from the late 1960s until current releases. UQT behaves like a huge database organised only in an alphabetical list, based on personal choice, namely its creator's tastes. At the beginning of 2012, the blog went down leaving its users suddenly without access to its archive. This block was imposed by the blog's server, the company Rapidshare, for infringement of current Brazilian laws that prohibit the reproduction of musical works without the prior authorisation of the copyright holders (in this case, major record companies like Universal and Sony). The entire collection was "lost". But the site returned, again challenging the law, because Fulano Sicrano had made a partial backup on a hard disk, and its users were asked to help in the reconstruction of the blog by re-sharing the MP3 files that they had downloaded.[4]

4When consulted on 15 July e 2014, the website www.umquetenha.org was once again down.

Toing and froing, these files had possibly been enjoyed by audiophiles, or had been used to create mashups and remixes, or had perhaps even been re-organised on a pen drive as a gift for someone. This intense exchange traffic is a common practice in this sphere, which has conventionally come to be known as "digital culture" (Savazoni & Cohn, 2009: 67).

It is clear that the practice of creating and exchanging music collections is nothing new or specific to our generation. As we saw with the example of Almirante, collecting music is a cultural legacy from the gramophone record world. Freud noted this at the time when sound recording equipment was becoming popular, in *Civilization and its Discontents* (1930), when he recognised that the gramophone record kept the "fleeting auditory impressions of man" that, "are at bottom […] materializations of the power he possesses of recollection, his memory" (Freud, 2001: 33). Following over a century of sound creations and records of the most different aesthetic interests and results, we have grown accustomed to "materializing" our auditory memory in the form of physical resources. We select, organise and keep vinyl records in personal collections or institutional archives as the world's musical memory or history. Consequently a culture of the phonograph record has been created that, as Lorenzo Mammí observed: "was no longer just another sound: it was a world in which different languages were competing with each other, a system of codes, a template for life" (Mammì, 2014: 2).[5]

Throughout the 20th century the gramophone record became an important document for academic research in the areas of musicology (music), especially in the subfield of ethnomusicology, of cultural studies (sociology/anthropology) and of cultural history (history).[6] As the ethnomusicologist Samuel Araújo has commented, phonographic archives "began, in some ways, to represent for music that had no written form what manuscript archives represented for 19th-century classical music" (Araújo, 2008: 43). For cultural historians, music and sounds preserved on disc opened up a vast field of research that entailed the adoption of a new theoretical-methodological approach regarding how they were incorporated and treated (Moraes & Saliba, 2010: 11).

In Brazil the record collections of some tenacious researchers served as a material foundation for the construction of narratives about the history of Brazilian music. The most eloquent and complex cases are, undoubtedly, those of Mário de Andrade and José Ramos Tinhorão, but the researcher Humberto Franceschi and, as we have seen, Almirante also created, on a different scale, their own narratives (Moraes & Saliba, 2010: 277–304). I have intentionally picked out these four names because their collections became institutional ones, different from so many other collectors, who kept or even still keep their collections within the private domain. It was during the 1960s that Mário de Andrade and Almirante saw their collections incorporated into public institutions, the Institute of Brazilian Studies at the University of São Paulo (IEB/USP in 1968) and the MIS/RJ (in 1965), respectively, and in the late 1990s, Tinhorão and Franceschi's collections were acquired by the Instituto Moreira Salles (Moreira Salles Institute - IMS), a private institution. In spite of the public or private nature of these institutions (a subject that

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5Before Mammí, the sociologist Márcia Tosta Dias (2012) developed a similar argument. For more in-depth research into this topic, see the work of the historian Sophie Maisonneuve (2009). Adorno wrote two important articles (Adorno, 1990a; 1990b) on this subject (thank you to Márcia Tosta Dias for this observation).

6Cf. *Center for the History and Analysis of Recorded Music – Charm* (www.charm.rhul.ac.uk).

is not the focus of these discussions, although it is important to recognise its relevance for understanding the wider processes of institutionalisation within Brazilian culture), what took place in these cases was the transformation of archives amassed and preserved as personal memories (both individual and collective, according to Maurice Halbwachs, 1968) into institutional and therefore "historical" documents.

However, we cannot lose sight of the fact that the processes of construction or invention of memory and of history often undergo what Michel de Certeau defined as the creation of "strategic discourses" and "guerrilla tactics" (Certeau, 1993: 46–47). There two are drawn in opposition to each other, undoubtedly, but are complementary from a wider point of view. The former has institutional bases and is supported above all by written documentation so that the discourses of memory and history take on a hegemonic position, often as the voice of the State, whereas the latter are created in the field of non-lettered experiences, involving oral transmission, or generically traditional ones.

De Certeau's parameters are also thought provoking in relation to the processes of creating musical archives in 20th-century Brazil and the outlook for the 21st century. Beyond the technical issues involved, institutionalising a collection of sheet music or vinyl records means inventing memory. In this sense, from Mário de Andrade's modernist project of inventing and preserving Brazilian musical culture, to 20th-century record collectors, and the new issues raised by digital music in the 21st century, it is still necessary to nuance and interpret the "strategic discourses" and "guerrilla tactics" through which the memories and histories of music in Brazil are created.

Disputed memory – equivalent memory

The experiences of the UQT blog is just one of many such cases on the Internet, a realm that virtually presents itself as a fluid, discontinuous space that is highly unstable and in permanent motion (Featherstone, 2000: 173). In a preliminary attempt to organise and analyse the natural spread of Brazilian music collections and archives, some more organised than others, that appear and disappear on the Internet, it is possible to suggest an empirical mapping based on De Certeau's notions on "strategic discourses" and "guerrilla tactics". From this perspective, both the websites of private cultural institutions (like the Instituto Moreira Salles and Itaú Cultural, for example) and those of public institutions (like the National Library of Rio de Janeiro, the Joaquim Nabuco Foundation, the MIS/RJ and the Museum of Image and Sound of São Paulo - MIS/SP) have become the mouthpiece of "strategic discourses" on the Internet. In turn there must also be hundreds of websites or blogs, like UQT, mouthpieces for "guerrilla tactics". Let us now take a closer look at this.

In the course of the 20th century, the main concentrations of memory regarding Brazilian music arose from individual and collective initiatives. The State has always developed links with that sphere subsequently, absorbing and expropriating several of these projects, transforming them into museums, libraries and record archives, as was the case with the Music and Sound Archives Division of the National Library (BN), the Oneyda Alvarenga Record Archive, and the MIS/RJ. Even so, faced with the permanent riches and multiplicity

of the production of musical registers, and the "urgency in protecting and safeguarding them", the actions taken by the Brazilian State have been largely insignificant.

In these restricted circumstances, in the late 1980s two important cultural institutes arose that were created directly or indirectly by major financial corporations: the Itaú Cultural Institute (1987), set up by the Banco Itaú bank, and the Instituto Moreira Salles (1990), founded by the Moreira Salles family, then owners of the Unibanco bank.[7] Brazil's re-democratisation process and the opening up of the economy to global capital also help explain the context of the emergence of these institutes. Obviously detailed analysis will reveal a more complex historical process, but that is not the focus of this research. In any case, from the 1990s onwards these cultural institutions established a benchmark in terms of: a) *preservation* — with the IMS coming to prominence as the leading institution focusing on investment in the creation and digitisation of musical archives; and b) *dissemination of contemporary Brazilian popular music* — with Itaú Cultural's creation of the project "Rumos musicais" ("Musical Directions") that aims to map the contemporary music scene.[8] At the same time as the creation of these institutes, which to a certain extent were responsible for institutionalising memory and music archives, informal cultural practices and relationships continued to proliferate in Brazilian society. In this sense Michael de Certeau's parameter of "guerrilla tactics" suggests an accurate image to describe the dynamics of new projects promoted on the Internet by "digital collectors-guerrillas".

As we know, the rapid technological evolution and its immediate expansion in the first decade of the 21st century were factors that determined the expansion of this process. In that period broadband Internet became widely available, at the same time as equipment for digitising images, as well as audio and video material, became accessibly priced. This made it possible for music lovers to create sophisticated oases of production in their homes – so-called home studios – (Lévy 1999: 140–141), something that was previously only possible for professionals. This immediately led to the staggering proliferation of blogs with digitised musical content in MP3 format. In reality, this practice is not all that different from that of collectors during the analogue era who kept their records and magnetic tapes in their homes, but with the major difference that it is now possible to record a much greater quantity of material, as well as to give immediate access to it, and disseminate it to a vast global public. Another very common dynamic in the digital sphere is the formation of personal collections created from other existing collections available on the Internet, as if they were *meta-collections* – collections made under the "curatorship" of the individual who selected material from the content of the Internet itself. As will be discussed below, these *meta-collections* are the main selection dynamic of musical memories on the Internet.

To summarise, digital collectors are currently able, with incredible speed and at extremely low cost, to publish their archives on the Internet. In this respect, the tangle of blogs that connect to each other has become the "guerrilla" camp of music lovers/collectors. They thus create a large mosaic formed from small thematic pieces: lovers of jazz, classical music, rock, Brazilian MPB and so on. Some of these have clearly chosen to establish themselves as sources for historical research and have created rigorous archives.

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7 www.itaucultural.org.br e www.ims.com.br.

8 http://novo.itaucultural.org.br/conheca/programa-rumos.

It is necessary to point out, however, that although effective as more general interpretive models, the notions of "strategy" and "guerrilla", when applied to the context of digital culture, prove to be ambiguous. Because the Internet is above all a horizontal navigational experience, the infinite possibilities that present themselves suggest to the user/researcher a certain experience that I will refer to here as *equivalence*, in other words, the frontiers and boundaries between personal music collections ("guerrilla") and institutional archives ("strategic") are clouded and confused in an environment in which everything presents itself in a similar or equivalent way.

In the analogue world, this was not the case, since amateur music collectors only had access to the records available on the market, and their collections would only become public, as an archive, if acquired by an institution. This means that collecting a musical memory involved keeping a physical object (records or magnetic tapes) within the private sphere. On the other hand, there was a clear distinction, a natural and intuitive one, between vinyl records kept as personal memories and those preserved by institutions. The latter were clearly understood as "historical" documents, records that resulted from a selection of history as official memory, whose organisation and whose criteria for dissemination and access were defined and used by the community of research "professionals".

In the digital world, an everyday search is enough to exemplify this cloudy terrain where the "strategic" and the "guerrilla" find themselves. For an ordinary user who is looking for Brazilian music files, the location, for example, of the original recording by Orlando Silva of the song *Carinhoso*, composed by Pixinguinha in 1917, and which acquired lyrics written by João de Barro (Braguinha) in 1937, he or she would probably begin with the leading internet search engine: Google. Typing the key-words "Carinhoso, Orlando Silva, Pixinguinha", this user would be directed to blogs like UTQ or to Brazilian music's 300 important records, and, in the latter case, would find the original recording made in 1937 by Orlando Silva re-released on CD by RCA/BMG in 1995.[9] Another possibility is that this user would be directed to the IMS website. Once there, he or she would enter the specific search system for the website's own archives, where he or she would quite easily find the original 78-RPM recording by RCA, made available as a digital archive in the database of the Humberto Franceschi archive (the vinyl record, furthermore, that was probably used for the re-mastered CD available on the previously mentioned blog. However, it is necessary to bear in mind that the Google search engine is based on an algorithmic calculation to rank external occurrences, both quantitative and "qualitative", that link to a page (*PageRank*®).[10] Consequently, the first search results produced by this system will be those with the highest level of incidence, in this case, blogs that, connected to each other via recommendation links and commentaries/messages (posts), attract a greater flow of attention than institutional websites, which receive less visits.

This example illustrates that both a personal collection made available on a blog, and a "historical" archive that is part of an institution, constitute a place of **equivalent memory** in the global, horizontal digital world. The perception of **equivalence** is, in my opinion, the main point of distinction with the analogue world, in which **memory** is constructed in a

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9See http://300discos.wordpress.com/2009/03/04/027-orlando-silva-o-cantor-das-multidoes-1995/. Retrieved on 15 April 2014.
10*PageRank*® is an algorithm used by the Google search engine, developed by Larry Page and Sergey Brin in 1996, patented by the University of Stanford. It is therefore a Google trademark (Page et al., 1999).

permanent field of **dispute** – whose theoretical tradition, with its constructivist foundations, is aimed at a more totalising historical narrative (Pollak, 1989).

In this respect, the traces of negotiation, or of **dispute**, between concurrent individual and collective memories are intimately linked to a dynamic of creation, dissemination and preservation of institutional collections and personal archives (musical or not) that pre-date the Internet era. The historian Robert Darnton has identified a similar dynamic in the context of the relationship between processes of knowledge and libraries:

> [...] to students in the 1950s, libraries looked like citadels of learning. [...] The knowledge came ordered into standard categories which could be pursued through a card catalogue and into the pages of the books. In colleges everywhere the library stood at the center of the campus. It was the most important building, a temple set off by classical columns, where one read in silence. (Darnton 2009: 32)

In the digital world of today, the historian recognises a different dynamic of construction of knowledge:

> [...] modern or postmodern students do most of their research at computers in their rooms. To them, knowledge comes online, not in libraries. They know that libraries could never contain it all within their walls, because information is endless, extending everywhere on the Internet, and to find it one needs a search engine, not a card catalogue. (Darnton 2009: 33)

The main Brazilian popular music archives amassed in the 20th century, like that of the MIS/RJ and the IMS, for example, were created within a pre-Internet logic. Their archives are part of the same world as the standard categories of organisation and exhibition used by the libraries cited by Darnton. Even in the case of the IMS, where there is a pioneering project to create an online database of sound recordings, its dynamic of occupying digital space is restricted to the dissemination, via the Internet, of its analogue collections, catalogued according to analogue criteria of hierarchy. In reality, this is a virtual mirror of what actually exists as tangible material, the results, so to speak, of an inexorable process of changing media formats that aims, above all, to make the material available via a new technological medium. We know that this involves a vast and complex operation, in which technical concerns revolve around a debate particular to the fields of information theory and archival science about analogue-digital conversions, metadata, cataloguing criteria, maintenance, and so on.[11] In other words, it is a debate about changing media. However, the principle of constructing and organising its archive is essentially analogue, the conservation of a collective institutional memory created by the dispute between individual memories, whose traces, contemporary historians can follow and interpret to thus form a totalising reading of a historical process.

Institutional archives with these characteristics, which allow for understandings that encompass totalities, have not yet emerged within and/or from Internet content itself. This is perhaps because there has not yet been time, given that the Internet has been in existence for roughly thirty years, or because maybe the very nature of the digital medium encourages other dynamics of creation, dissemination and preservation, a theory that I favour. Therefore it seems to be in the spread of "digital-collectors-guerrillas" that inhabit the daily life of the Internet that the ins and outs of the disputes between memories in the

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11Cf. *National Recording Preservation Board*, 2012.

realm of digital culture are formulated. But are they really *disputes*? Let us now take a closer look to try to understand these dynamics.

In the particular case of contemporary digital culture that has grown up around music and sound archives, I underline the beginning of Kenneth Goldsmith's interview. Asked about the changes in musical language in the digital era, he directs his answer to another aspect:

> I don't think that the change in music is only aesthetic, but about distribution. Nobody pays attention any more to what something is. The important thing is how it is being distributed. This is what is radical. Nobody pays attention to the content, but to how it is published. This is why the most important websites are not those that create original content, but those that identify what is the best content. In the blog BoingBoing, for example, the editors don't create anything, but they know how to identify what are the coolest things. So, who chooses becomes more powerful than the creators. People who know how to manage information and show you what's the best. They are the real artists of today. We all do this, because the digital archive is the new popular art. It is something we all do, we are all archivists now. (Goldsmith, 2011: 156)

In essence, Goldsmith is describing a kind of levelling out of individualised actions (original creations) that, in their *equivalences*, appear to form a homogenous group ruled by a logic of distribution and redistribution *ad infinitum*. With the enthusiastic guerrilla spirit of a militant, his own words are confused with the object that he is trying to analyse:

> Your MP3 collection, your photos are your archives. You take care of them, organise and arrange them, remove things. We all do that, everyone. We have all become great archivists of photos, music, films and even gmail correspondence. It's a crazy time. People spend most of their day collecting: we move the file to our machines, then we keep it in some folder or other, then we send it to some people so that they can go to the file and download it. We share information and we re-tweet, re-blog etc. And via your influence in these networks, you become very powerful. The most interesting and relevant art is dealing with archives, with distribution, copyright, these issues. (Goldsmith, 2011: 157)

Despite the commitment of Goldsmith's words, what I believe to be important in this account is the recognition of an information culture characterised by abundance and redundancy and created via accumulation. This obsession with collecting has already been identified as one of the principal characteristics of the information era (Castells, 1999).

Fausto Colombo, in a pioneering, visionary study *Gli archivi imperfetti*, published in 1986, a long time before the Internet took on the central role in our lives that it occupies today, recognised that we are living in an era obsessed by memory – a veritable "passion for archiving".[12] The processes of equivalence in digital culture heralded by Kenneth Goldsmith as "new" forms of creation (music) and distribution (collections, archives), take on another meaning if we look through the memory lens developed in Fausto Colombo's study. In a surprisingly accurate synthesis *avant la lettre*, Colombo hits the nail on the head in relation to our contemporary digital experience:

> The great social systems of memory — to which global memory is entrusted — are used by the individual, it is true, but not to recognise his or her own subjectivity. This task is entrusted prevailingly to the personal and private process of recording, which imitates the social process,

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[12]The importance of the archive in the 20th century as a focus for cultural studies comes from the philosophical tradition initiated by Michel Foucault in *L'Archéologie du savoir* (Foucault, 1969) and developed by Jacques Derrida in *Mal d'archive* (Derrida, 1995), around ideas about units of memory, forgetting and power.

rejecting, however, the information and relationships that the latter entails. The paradox of *current* emphases, which consider the user to be the centre of a system of informational, televisual, computing and telematic networks, is that it has not understood that the user does not tend to interpret him- or herself as such, but rather as an amateur hoarder and archivist, for whom the importance of the information that s/he is able to amass does not lie in its power to inform the world, but in the possibility of finding pleasure in the act of social storing, creating a warehouse-album of memories that is his or her own, and also autonomous, external, often useless, and yet reassuring, refuting the act of forgetting. (Colombo, 1991: 119–120)

In the particular context of this research about music's memory narratives, I believe that, in the present-day scenario, almost thirty years after Fausto Colombo's study, the categories of memorisation that he proposed could essentially be understood as the following two notions: *the record* (analogue) and *the processing* (digital). From this perspective, memorisation via *recording* (*the document*) appears to translate very well that vinyl record culture mentioned at the beginning of this article, in which preserved memory recorded on vinyl records became a research trail based on different individual and/or collective narratives in *dispute* over a totalising understanding of the historical experience. On the other land, memory via *archiving* (*processing*) seems to express the logic of digital culture centred on MP3, wherein the obsession for collecting and archiving, in a constant state of processing, suggests an experience *equivalent* to memory narratives. However, this does not mean that these memories are useless, as Colombo insinuated, but that they are incapable, due to the neutrality of their disputes, to construct narratives from a totalising perspective.

On mp3

Nowadays I do not think it is an exaggeration to see MP3 as the replacement for the vinyl record culture. There is no doubt that it symbolises a new era in the history of the creation, perception and reproduction of sounds. More than a contemporary media format based on audio compression, MP3 is linked to a new kind of cultural, social and economic behaviour relating to sounds in the 21st century, just as the *record* was in the 20th century, as the historian Sophie Maisonneuve has accurately described:

> [...] from the talking machine to the record, from the fascinating laboratory invention to the home music medium, the history of the phonograph in the first half of the 20th century is a complex and collective invention, in which the object is invented at the same time as its practices, in which the market is created together with the media and their uses. It is because of this triple innovation [technical, commercial and cultural] that the record and hedonistic domestic music-listening have become what they are today: both transparent and omnipresent in everyday culture. At a time when this media is becoming history, overtaken by new media, it is not useless to re-examine its trajectory: it allows us not only to assess the extent of that revolution in the last century, but also to better understand the present context of new mutations taking place in the audiovisual realm today. (Maisonneuve, 2006: 31)

The abundance of information that digital culture has brought into the contemporary world is most dramatically emblematised by MP3 technology: never has so much music been listened to, created and shared. With its low resolution and small size, MP3 is able to navigate the Internet quickly and efficiently, crossing hundreds of countries, each with their own local laws, licensing agreements and policies. It is also clear that as it travels, this

small sound "package" transforms and is transformed by those who create, listen to and share music. Jonathan Sterne writes:

> MP3 is also an artefact in another sense. MP3 is a crystalised collection of social and material relationships. It is an object that "works for" and is "worked by" a group of people, ideologies, technologies and other social and material elements. Those who have written on the traditions of the social construction of technology and the actor-network theory [...] have focused on the relationship between human and non-human actors in the contruction of technologies, showing how they group together with what could be considered, in another way, as disparate elements. Cultural studies of technology have concerned themselves with more wide-ranging analyses and how technologies are involved in these contexts [...]. But all these approaches refer to the artefact-like nature of technologies such as MP3. They prompt us to consider MP3 as the result of social and technical processes, as opposed to something beyond that.
> [...] Even so, in most analyses, researchers treat MP3 as an inanimate, mute object, which "impacts" on an industry, a social environment or a legal system. It is not unusual for texts on the subject to use the MP3 format as an obvious "given", with little in-depth reflection on the topic, a requirement for addressing real legal and economic problems. At the same time, surprisingly, there has been little discussion about the aesthetic dimensions of MP3, whether understood as the experience of listening to MP3, the sound of MP3 itself, or the meanings that the MP3 format may have. (Sterne, 2010: 64–65)

In his study *MP3, the meaning of a format* (Sterne, 2012a), Sterne develops this understanding of MP3 as an artefact, attempting to provide a rough history of the "audibility" experiences of the cultural relationships that surround what he likes to call "container technology" — a media technology developed to make use of other media technologies, namely, a storage facility for sound recordings. Before focusing on MP3, Sterne wrote a study of the "audibility" of the past, *The audible past: cultural origins of sound reproduction* (Sterne, 2003). Sterne thus continues to delineate, with the collaboration of other researchers, a field of study recognised in the areas of ethnomusicology and cultural studies, in countries such as the USA, Canada and the Netherlands, as *Sound Studies*.[13]
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One area of debate regarding our understanding of MP3 as an artefact has emerged around the first issues that digital culture brought to the fore about ideas of freedom, copyright, and a particular notion of democracy based on universal access to the Internet. Eliane Costa summarises the problems as follows:

> Based on the fact that technological systems are socially produced and social production is culturally structured, Castells considers that what can be called Internet culture reflects the culture of its creators, who being, simultaneously, its first users, reintroduced their practice into the technology that they created. This collaborative, self-sustaining culture, found in the early Internet, is the inspiration for many of the battles of a libertarian nature that are being fought today in cyberspace. (Costa, 2011: 96–97)

It is symptomatic that, in today's economically globalised world, the relationships between sounds and the new digital culture have centred most strongly, and prominently, on the economic issues related to the property rights of the musical works stored on MP3. In April 2011, the Berkman Center for Internet and Society, linked to the Harvard Law School in Cambridge, Massachusetts, hosted the conference "Rethink music" (www.rethink-music.com). The music industry in the digital world was the dominant theme of the

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13"*Sound Studies* is a name for the interdispiplinary ferment in the human sciences that takes sound as its anlytical point of departure or arrival. By analyzing both sonic practices and the discourses and institutions that describes them, its redescribe what sound does in the human world, and what humans do in the sonic world" (Sterne, 2012b:2).

conference. The discussions, organised in the form of an article signed institutionally by the Berkman Center,[14] began by recognising something already observed in other areas of research into the impact of the Internet on contemporary culture, namely that with the spread of the use of information and communication technologies, new possibilities for accessing and producing knowledge had come into existence, challenging laws, business models and public policies, such as they are presented nowadays. Based on this observation, a research/discussion agenda was proposed about: 1) sampling, mashups and the emergence of the remix culture; 2) the relationship between artists and digital music labels; 3) law, politics and the distribution of digital music — subthemes: 3.1) rights regarding public performance and sound recordings in digital media; 3.2) collective licencings, like *Creative Commons*; 3.4) fighting piracy and copyright compliance on-line; 4) the role of Internet providers; 5) streaming and cloud storage for digital music; and 6) Internet neutrality.

The response to this excessive attention to the product has been, furthermore, centred on discussions of a sociological and aesthetic nature[15] concerning the possibilities for collective experiences that new technologies permit – a specific notion of "democracy" rooted in the empirical perception of universal access to the Internet and the enthusiastic reception of new aesthetic procedures known as post-production techniques (mashups and remixes*)*, as we have seen in the words of Kenneth Goldsmith.[16] However, little is being said about the new place of authorship (not of copyright) within this new scenario that suggests, as I have been seeking to demonstrate, a certain *equivalence of experiences* — both in terms of memories and of authorial creation.[17]

Up until this point it can be noted that, seeming to mimic the logic of the Internet experience of horizontal multiplication, the themes surrounding MP3 culture are suggestive of a wide-ranging and complex field, systematised here into its main currents. We have seen that these issues (for example, file sharing, universal access, remix culture, or the technical characteristics of digital media symbolised by the "packages" of the MP3 file) relate directly to the habits of collecting or creating institutional music archives on the Internet. They thus relate to a certain type of memory and forgetting specific to digital culture.

Having roughly mapped the terrain, from a more theoretical point of view, we can now embark on a specific line of enquiry to test the limits of the hypotheses of a present-day field of study, which will only have more concrete answers in the future, when MP3 culture has become history; perhaps in an analogous process to that identified by Sophie Maisonneuve with regard to vinyl record culture of the last century.

14*Revista Auditório* (2011b).

15In Brazil the Ministry of Culture, when presided over by Gilberto Gil (2002/2008) and Juca Ferreira (2008/2009) adopted a pioneering position internationally by encouraging and discussing conceptually digital culture in its social, cultural and artistic dimensions (Costa, 2011; Savazoni & Cohn, 2009).

16"Post-production" and "relational aesthetics" are notions developed by Nicolas Bourriaud in relation to artistic creation in contemporary culture (the information society), in which the separation between author and spectator, he argues, is lost in favour of a continuous, collective experience, one that is open and democratic. In Bourriaud's opinion, current art, born from a hyperinflated regime of sounds and images, inserts "[...] the work into a continuum of an existential device. [...] These works are no longer paintings, sculptures, installations, terms that correspond to categories from the domain [...] of products, but rather mere *surfaces*, *shapes*, *devices* that fit into strategies of existence" (Bourriaud, 2009: 141).

17For a discussion of the idea of the author in the contemporary world see: Barthes (1984), Foucault (2011), Bosco (2013: 403–428) and Carvalho (2011: 52–55).

Network movement

I now propose a preliminary, panoramic view involving our so-called primary sources: websites and blogs of collections and archives of Brazilian music. In reality, the key questions emerged, in the first instance, from the concrete observation of the collective experiences of the UQT blog and the IMS archive, as well as the individual trajectories, narrated at the start of this article, of Almirante and Kenneth Goldsmith.

The points that I will make are some of the initial results of on-going research.[18] The survey carried out throughout 2013 involving websites and blogs that make available Brazilian music archives concentrated on the field that we have conventionally referred to here as "guerrilla tactics". The choice of this corpus is justified by my specific interest in the dynamics of file sharing of music as practices of a present time peculiar to digital culture, which institutional archives take part in in a specific way. The websites that feature "strategic" discourses, as previously discussed, have clear objectives to "save" the *disputed* memory/ies from the act of forgetting what "remained" in their physical archives, within a logic, of course, specific to analogue culture. In this sense, the criteria for determining what is digitised and made available defined by the IMS, for example, relate to the obsolence of certain media. According to the coordinator of the IMS's music section, Beatriz Paes Leme,

> [the] main focus of the sound archive made available by the IMS is the Brazilian 78-RPM discography. In this respect, the "concept" that guides us first and foremost is the preservation of Brazil's musical memory that is most under threat. Rightly or wrongly, what was recorded on 33RPM and, later, on CD, has a much more guaranteed survival. (Cited it Piotto, 2014: 18)

As I pointed out at the beginning of this article, the UQT blog has become a reference point on the Internet for making available commercial Brazilian popular music produced from 1960 until the present day. Before "losing" its content, UQT had around 1.3 million pages accessed per month (Piotto, 2014: 17). This is indicative of the importance and the relevance that the blog had on the Internet. For this reason, I restricted the mapping to blogs and websites that, in some way, are connected by the network of links that stem from UQT. The blog's administrator, Fulano Sicrano, appears to be a collector aware of his power to influence:

> The criterion for choosing and posting albums is merely personal, I try to cater to all tastes, trends, musical genres, without straying into the trashy, into fads. I don't like everything that is published, however, in my view, everything that is published has cultural and social importance. The majority of visitors when they refer to UQT say that it is dedicated to promoting "quality" Brazilian music. But, at the end of the day, what does "quality" mean? In the case of music, it is a very vague, imprecise term, based on personal criteria of choice and exclusion, for sure, but those who frequent UQT like what is published much more than they dislike it. It is extremely difficult to please everyone – even I have said that I don't like everything –, but, on average, I think we fulfil our mission. (Piotto, 2014: 14)

18Scientific initiation research developed in the Department of History, in the Faculty of Philosophy, Arts and Humanities of the University of São Paulo (FFLCH/USP), under my supervision, carried out by Gabriel Piotto in 2014, and entitled "Documentos e fontes digitais: navegando na maré dos acervos universais de música no Brasil do século XXI (2001-2010)"["Digital sources and documents: navigating the tide of universal music archives in 21st-century Brazil (2001-2010)"], funded by Fapesp grant no. 2012/22336-8.

At the same time as blogs like UQT strive to create thematic groupings in their collections ("quality" Brazilian music, for example), others simply set out to re-publish files from different Internet "sources", or to publish new information (sound files) without any thematic criterion. In view of this naturally fluid and fragmented scenario, I have grouped together these initiatives into two types of behaviour: 1) *opinion formers*: blogs/websites of collections of Brazilian music with a specific focus in their approach (groupings by genre or timeframe) that have achieved recognition and influence on the Internet; and 2) *"contentists"* (*meta-collections*): blogs and websites that bring together the largest number of random digital phonographic documents, without any selection criterion of a thematic or temporal nature – or any other kind we could imagine. The origin of the sound archives is also different in the case of each group: the former, in general, usually digitise LPs or "rip"[19] CDs from their personal (physical) collections to create an MP3 file format, and allow free downloads (ignoring copyright) on their blogs/websites, whereas the latter only copy existing links from other blogs/websites (for this reason I have termed them *meta-collections*), thus multiplying the infinite possibilities for consultation on the Internet.

Having identified this initial scenario, which is more reminiscent, as has already been said, of a "building site" than a planned development, the question arises as to how to deal with this source, that has emerged at such a highly unstable moment in time. A possible way of developing this research could be, for example, to follow the lead of ethnographic study, using the traditional methodological tools of anthropology. A group of users of these blogs/sites that share Brazilian music could be defined, and analyses of their practices would perhaps reveal musical preferences and choices or narratives that we could identify as trails of memories and/or forgettings. Or, in a contemporary inversion inspired by the symmetric anthropologist Bruno Latour (1983; 2009), we could base research on the hypothesis that the Internet itself is the subject that is active in large socio-technical networks, as an agent immersed in chains of relationships with innumerable other agents – in this case, the memory trails would undoubtedly be much more complex.

However, and not so far removed from Latour's perspective, in this digital world inhabited by collectors-guerrillas of Brazilian music in a state of a certain *equivalence*, there is a digital trail that can prove to be a surprising record of memory on the Internet: *metadata* – information (data) that the digital document (piece of data) stores within itself. Memory, understood here in the two senses previously discussed: 1) as a specific process of recording (for example, technical information about the recording and processing of audio); and 2) as an individual and/or collective experience and, thus, also a socio-cultural one relating to history and forgetting. Unlike the analogue register of a document in a library that is preserved in catalogues, *metadata* travels with the digital file and is able to memorise, in addition to other potentialities, its own journey. Nowadays, the *metadata* of musical files are primarily of a technical nature, containing information about recording dates, the type of conversion and compression of the sound wave, or about the copyright registration of the phonogram, above all the interests of the record industry. But they could be different with the incorporation, for example, of the same technical mechanism (XML) as *metadata* used in texts.[20] This is roughly what enables search engines like Google to

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19"Ripping" is the term used to refer to taking music tracks from CDs and transferring them to MP3, the format used, in general, for sharing on the Internet.

20XML, *extensible markup language*, is a programming language that enables you to describe diverse types of data with the objective of giving widespread access to the sharing of information on the Internet. On the subject of metadata in sound files see Waters and Allen (2010).

find any keyword or phrase digitised on the Internet in articles, books or texts in general. This would open up an avenue of "infinite" possibilities in terms of resources for archivistic description and for historical criticism of digital sound archives. However, I do not intend to embark on such discussions here because it would deviate too much from the aims of this article. But I propose this research hypothesis that, with the necessary rigorous scholarship, would undoubtedly present "new" digital sources for a historiography of musical memory within digital culture.

<p style="text-align:center">* * *</p>

If we return to the two initial narratives of Almirante and Kenneth Goldsmith, we will notice that both were radio presenters. In essence, the radio presenter is someone who selects musical memories influenced by the fashions of the era, record industry interests, or simply by personal taste. In general, radio presenters are collectors. It could be said that, since the beginning of this articles, I have sought to identify the characteristics of these two radio presenters/collectors, each one in his particular temporal context, one analogue, the other digital. However, the differences between the practices of the collector/creator of an analogue archive (*disputed memory*) as compared with a digital one (*equivalent memory*) have served more as a methodological strategy to characterise, in contrast, what is new (Internet culture) rather than as an an interpretive tool. From the point of view of memory, history and forgetting, the *analogue* and *digital* worlds seem to co-exist in contemporary culture. So the inclusion within the Internet, for example, of the strategic discourses of institutional music archives, such as that of the IMS, are essentially analogue and will them remain as such because their content is the vinyl record culture *disputed* throughout the 20th century as memory or something forgotten. The blogs and websites of guerrilla-collectors of current music, on the other hand, suggest a dynamic particular to the medium in which they were created, in which sharing (memory) and losing (forgetting) MP3 music archives seem to be two sides of the same coin, in other words, an *equivalent* experience.

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5. Making Sites Audible: Ambient Sound in Practice

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Abstract: Ambient sound is a standard term used by sound practitioners to denote the site-specific background sound component that provides locational atmosphere and spatial information. In this paper the specific role of ambient sound to create the context for the spatial experience in film and media art has been thoroughly examined in the light of sound studies. The paper investigates the capacity of ambient sounds to sculpt the presence of the site by producing an embodied experience. The paper brings in a much-needed focus on the complex relationship between sound and site by examining the spatial environments constructed by the sound practice. Guided by the production studies of sound, the paper draws on the theories of diegesis, mimesis and presence to reformulate the notion of the soundscape, while keeping a conceptual base in phenomenology of sound in analyzing the spatial and atmospheric listening experience. The paper cites examples from representative Indian films and sound-based media artworks as case studies to make critical listening and reflective analysis of the processes through which ambient sound practice enhances the spatial and atmospheric sensations. The paper draws insights from prominent sound practitioners, such as sound designers, mixing engineers, and recording artists in the form of long interviews and in-depth conversations conducted by the author over several years. The practice-led inputs make the empirical basis of the paper shedding light on the production process providing links between certain techniques available to specific phases of sound production and aesthetic principles shaped by the respective phases of practice with ambient sounds. The paper locates a distinct shift occurring through these trajectories of sound practice, and relates this shift to the recent "spatial turn" in Sound Studies, making valuable contributions to the field of Sound Studies interested to inquire about the emerging spatiality as the embodied experience of the site.

Keywords: Sound Studies, Ambience, Atmosphere, Ambient Sound, Site, Presence.

1 Introduction:

The world within the film and media art production appears by means of the place or the *site*[1] depicted on the screen and created within the environment of sound. We involve ourselves with mediated environment of the production by recognizing relative presence of the site within this constructed world. The embodied experience[2] of presence[3] may vary in degree and intensity, depending on the art and craft of the sound practitioners and their intention to attend to the visual and sonic details of the site recorded and represented during the process of the making. We believe in the constructed world when resonance of the site reverberates in our ears and to our sonic sensibilities even long after the medial experience. It is no surprise then that creating the presence of the site in the sound production is of foremost importance

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1 *Place* is a generic term, while *site* as a term is more specific. *Site* denotes a point of an occurrence or event, where something important happens; *site* suggests a particular place that is used for a certain activity. Hence, I will be using the term *site* more often than *place* to specify the narrative depiction of the particular location in cinema.

2 "Embodied experience" is defined by scholars of digital media as a state of "being surrounded by simulated sensorimotor information in mediated environments that create the sensation of personally undergoing the experience at that moment." (Ahn, 2011: iv)

3 The conceptualization of "presence" concerns the degree to which a medium can generate seemingly accurate reproduction of objects, events, and space – representations that look, sound, and/or feel like the "real".

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when it comes to convincingly convey the narrative development to the individual audience.

How is the site in the film and media artworks recorded and produced through the practice of sound? Certainly, there are specific methods and creative strategies involved in constructing or evoking presence of the site within the media environment by recording and organizing sounds that intend to create a relatively convincing universe through the mediation process. How much degree of presence is achieved in sound practice? Or the site still remains mostly absent when we listen to these works?

In the case of the film as a mediated environment constructing a convincing universe, the cinematic experience is essentially crafted by recorded materials put together by the practitioner with a narrative structure in mind (Bordwell and Thompson, 1997). These audiovisual materials may or may not be directly or synchronously recorded from the site or environmental setting we see and hear in cinema. However, the strategic combination of these disparate materials suggests the presence of a fictional site where the actors move and within which the story takes place. It is a question of degree how much association and engagement the spectators develop with the sites narratively portrayed in the reproduced sonic environment on and around the screen, and how resoundingly *present* they appear following various stages of production processes involving recording and spatial organization of sound. Hence, in the hands of film sound practitioners, such as the location sound recordist, sound designer, production mixer and mixing engineer, the answers to these questions may be found.

As Susan Hayward (2006: 359) has observed, coming of sound in cinema introduced "a crucial element to the registering of authentic reality"; henceforth, sound film "was touted as being closer to reality". Adding of sound to the screen could provide for perceptually realistic delineation of the site through the process in which "the experience of sound may become more spatially defined. By contrast with a two-dimensional image, the temporal nature of sound becomes related to the hearing subject's own location in any given space" (Bloom, 2014). The spatial characteristics of sound were recognized and explored after the coming of sound in cinema as an anchor to the story-world as the tangible setting of a site that could be associated through our lived experience of place. Sound recording also opened up the palette for the film practitioners to choose materials for providing the sitely evidence in terms of spatial details. In this palette, the background noises like natural and environmental sounds and other location-specific sounds that were recorded and put together along with other sonic elements such as voice, music and effects, primarily contributed to the realization of the site or the environmental setting since the time of the *talkies*. My interest in this paper lies in understanding trajectories of this practice, i.e. the way these specific layers of sound are recorded and spatially incorporated so as to produce the association of site since the advent of sound in film and media arts developing toward the contemporary digital realm. This trajectory perhaps poses a large historical canvas, but the singular focus of this paper remains on the study of the practice of ambient sounds to construct and produce the presence of the site in film and media artworks. A qualitative evaluation of the production practices and various methods used by sound practitioners working within the film industry as well as description and reflective analysis of a number of relevant artworks will inform this inquiry.

On the qualitative difference between talkies and films that explored sound, René Clair stated that "The talking film is not everything, there is also the sound film" (1929). What make the then 'sound films' different from the talkies was the complex layer of sounds besides "almost always voice" (Chion, 1994) and the background musical score. These layers of sound included sync effects, and most importantly the sitely noise, or the "ambient sounds". From the very advent of sound in cinema, ambient sound has been a practical concern in film production. What is the specific role of these ambient sounds in cinema? Every site depicted in the story has distinct and subtle sounds emanating from its environment. These sound sources can include wind, rain, running water, rustling leaves, distant traffic, aircraft and machinery noise, the sound of distant human movement and speech, creaks from thermal contraction, air conditioners and plumbing, fan and motor noises, hum of electrical machines and room tones. Although film sound has received extensive academic interest, much of that attention has been invested explaining the role of the voice and music in relation to the visual image. The natural, environmental or ambient sounds remained underexplored albeit these specific layers of sound carry the primary spatial information for constructing the "presence" (Doane, 1985; Skalski and Whitbred, 2010; Grimshaw, 2011; Reiter, 2011; Lombard and Ditton, 1997) of the site through an interplay between "diegesis" (Percheron, 1980; Burch, 1982) and "mimesis" (Kassabian, 2013; Weiss, 2011) in the narrative strategy that is undertaken within the production process facilitated by the sound practitioners. Therefore the term "ambient sound" and its specific mode of practice need careful attention and in-depth analysis.

2 Defining Ambient Sound

The central topic of this paper is ambience or, more precisely, ambient sounds.[4] I intend to examine how ambient sound is used in the process of sound production, both in fiction films, and in media arts - for instance, the emerging field recording-based sound artworks, especially produced in my home country India. The focus of the comparative investigation is on the processes of (re)constructing the presence of a site by means of ambient sounds recorded from the site: in film it is the fictional site, while in sound art it is the site for making field recordings with the purpose of developing production of a sound work through artistic intervention and transformation of the site.

How can the terms "ambience" and "ambient sound" be adequately defined? There are many intersecting definitions and explanations available on the public domain. A quick (and dirty) online search on Google may lead to some of the term's many interpretations, but it is quite doubtful whether they correspond to each other and help conceptualize the term coprehensively. According to the online resources Wikipedia and Media College[5], in the context of filmmaking "ambience" consists of the sounds of a given location or space. This definition correlates ambience with other associated terms, such as atmosphere, atmos, or background sound. The resource-rich website FilmSound.org suggests: "ambience pertains to the pervading atmosphere of a place." The website further claims that, "ambience is widely used as a synonym for ambient sound, which consists of noises present in the environment." Drawing on these sources, I argue that these two terms belong to the same "family" of concepts in sound practice as well as sound theory, and can

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4Ambient sound broadly denotes the background sounds that are present in a location: wind, water, birds, room-tone, office rumbles, traffic, forest murmurs, waves from seashore, neighborhood mutters, etc. Detailed explanation follows later in this article.
5See: http://www.mediacollege.com/audio/ambient/

be used interchangeably. However, etymologically, "ambient sound" underscores the material and functional aspects of the term, while "ambience" emphasizes the term's social and cultural connotations.

Terminology aside, for the sound artists and practitioners[6] ambience and ambient sound generally denote the surrounding sounds that are present in a scene or location, e.g. wind, water, birds, forest murmurs, electrical hum, room-tone, office clatters, traffic, neighborhood mutterings, etc. Ambient sound can provide a specific atmosphere of a site in the construction of the diegetic space – or the interior world of a film or sound-based media artwork. To the sound artist and practitioners ambient sound injects life and substance not only to what we see on the cinematic screen but also to the off-screen story-world. The practitioners use the material layers of ambient sound to construct the experience of presence.[7] Ambient sound also helps to mount atmospheres of a specific site in the mediated environments. These practical considerations and perspectives underscore its site-specific and spatial nature.

Ambient music pioneer Brian Eno has defined ambience in the liner notes of Music for Airports "as an atmosphere, or a surrounding influence: a tint" (Eno, 1978). This sense of subdued coloring indeed permeates the field of ambient music. However, Eno's definition shows a tendency to make an easy association between ambient music and ambience. In opposition, I will argue that correlating ambient music readily to ambient sounds or ambience is debatable. As Joanna Demers has shown, ambient music "uses a slew of methods to make it sound as if it lacks a foreground and thus easily melts into its surroundings" (Demers, 2010: 117), and thus, as David Toop suggests, hints at an imaginary environment rather than imposing one (1995). However, ambient sounds emerge from specific sites and their site-specificity cannot be easily disassociated in artistic transformation in field recording pieces.

Contributing to the discussion of ambient sound and ambience, Ulrik Schmidt (2012, 2013) has proposed the term "sonic environmentality" as a general context for the ways ambient sound can affect us as environment. The concept of sonic environmentality further opens up the discourse by making distinction between three major forms or dimensions: the ambient, the ecological and the atmospheric. This threefold dissection of ambience helps create a deeper engagement with the term in a comprehensive understanding. My work so far (Chattopadhyay, 2012, 2014, 2015, 2016) tried to intervene into the discourse by considering ambient sound as a material in the hand of practitioners and artists for developing site-driven sound works.

Ambient sound as a concept gains currency in contemporary studies of sound in film and field recording-based sound art practice ever since digital technology made it possible to record sound more precisely from the actual location and reconstructing it in a multi-channel spatial organization of sound in the contemporary media towards what being

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6"Sound practice" is a broad term used throughout the paper; it encompasses sound recording, production mixing, dubbing, studio mixing, Foley, re-recording, and so forth. Likewise, the term "Sound practitioner" accommodates all the sound professionals, e.g. location sound recordists, field recording experts, directors of audiography, Foley artists, sound designers, production mixers and mixing engineers, re-recording specialists et al working within film and media production.

7See ongoing project *Audible Absence* (Chattopadhyay, 2016), http://budhaditya.org/projects/audible-absence/

termed the "spatial turn" (Eisenberg 2015) to describe an intellectual movement that puts emphasis on place, space and site in social science and the humanities. The present time is conducive for these considerations since Sound Studies has emerged and rapidly established itself as a vibrant academic discipline. A critical listening, informed inquiry and in-depth analysis of the generally ignored field of ambient sounds will do justice to the pertinent discourses in Sound Studies.

3 Roles of Ambient Sound in Film and Media Art

For the last few years a major part of my research revolves around the notion of "ambient sound" or "ambience".[8] The broader interest is to examine how ambient sound is practiced in the methodology of filmmaking and media production. The specific focus however lies in conceptualizing the processes of (re)constructing the presence of a site by means of ambient sounds, recorded from the site. As explained above, ambient sounds used in the narration directly relate to the sites depicted on the screen to project a diegetic space[9], but the relationship between the site and sound is constructed according to the craft of the sound practitioners in terms of what they intend to suggest in order to enhance the auditory setting of the narrative. It is therefore necessary to understand the specific roles of ambient sounds in film and media (art) production as the primary question driving the research in this paper.

Let us first consider the role of ambient sound in the films. Since a substantial amount of sound production scholarship is based on the historical development and analysis of film sound, a clearer picture of the context of the paper can be drawn by beginning with an exploration of ambient sound in film. It is my primary assumption that film sound practitioners choose to use the layers of ambient sound among a multitude of other recorded sound components, incorporating them in the strategy of narration in such a way that they produce a spatial realization of a presence of the site in the diegetic world. The absence or relative inclusion of ambient sound in the sound organization determines qualitative degrees and intensities of the site's presence.

Scholars of film sound production point toward the spatial, enveloping properties of ambient sound. Take for example David Sonnenschein, who suggests that ambient sound can "create a space within which the audience can be enveloped" (Sonnenschein, 2001: 47). No wonder, emphasizing the atmospheric properties, Béla Balázs proclaimed that it is ambient sound's business to reveal the acoustic environment— the landscape that we experience everyday. He called the acoustic environment the "intimate whispering of the nature" (Balázs, 1985: 116). Theories of spatial cognition also suggest that site-specific environmental and ambient sounds can reinforce spatial aspects of perception "focusing

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8See ongoing project *Audible Absence* (Chattopadhyay, 2016)

9In film and media works, the term "diegetic" typically refers to the internal world created by the story that the characters themselves experience and encounter, the narrative "space" that includes all the components of the story-world, both those that are and those that are not actually depicted on the screen.

primarily on perception of sound-source direction" (Waller and Nadel, 2013: 83). These varied perspectives inform us how ambient sounds provide depth and a spatial dimension to a particular filmic sequence by establishing conducive environments to elicit the cognitive association between the auditor and the site in the diegesis, reinforcing "the impression of reality" (Percherron, 1980: 17) in the narration. In film sound production, the organization and design of ambient sound completes the perception of reality in terms of direction and localization, enabling the audience members to relate to the specifics of a site's sonic environment in the interior world of a film. Sound production scholar Tomlinson Holman states that "ambience most typically consists of more or less continuous sound, often with a low-frequency emphasis we associate with background noise of spaces" (Holman, 1997: 177). Holman further informs us that there are various kinds of ambient sounds used in film sound production: they can vary from the characteristic natural environmental sounds of a given outdoor site to the indoor "room tone". Room tone is the low-frequency ambient sound of an indoor space in which all the actors are silent; it is the sonic layer that is significantly capable of carrying the characteristic details of a particular indoor location. In this connection, Holman suggests that, "ambience most typically consists of more or less continuous sound, often with a low-frequency emphasis we associate with background noise of spaces" (Holman, 1997: 177). The advent of digital recording makes it possible to record and re-present a deep layer of low-frequency sounds (Kerins, 2011). Earlier recording media, analogue optical film and analogue magnetic tapes, with their limited dynamic range were less capable of capturing the full spectrum of locative ambient sounds, such as the elusive layer of a room tone. This low frequency content such as room tone and rumbles in digitally recorded ambient sound layers arguably contributes to the sense of embodiment. An embodied experience of sound in the cinema is provided by site-specific bodily perceptible location recording of ambient sounds in their spatial organization proliferated by full-frequency multi-track digital audio recording and multi-channel surround sound design. As rightly argued by sound production scholar Mark Kerins (2006, 2011), this sense of embodiment through bodily perceptible low frequency sounds finds prominence in the digital realm of sound production – an important aspect for sound design practices where this capacity is termed "adding body to the sound".[10] The concept of embodiment draws from phenomenology of sonic perception. Maurice Merleau-Ponty has argued that perception is the product of a multisensory relationship between the individual's "body" and its surroundings as a whole (2005). Don Ihde resonated with similar claims: "I do not merely hear with my *ears*, *I hear* with my whole body" (Ihde, 2007: 44) substantiating embodiment as a useful concept in discussing ambient sound.

The notions of presence and embodiment as drawn from Sound Studies, may be quite relevant while discussing ambient sounds in the context of sound art. However, in sound art the functional aspects of ambient sound are often dissolved to embrace the artistic imagination and transformation. The "ambient" in "ambient sound" often relates to a loosely environmental and a rather vague understanding of atmosphere (Böhme, 1993). Likewise, sound artist and theorist Seth Kim-Cohen in his book *Against Ambience* (2013) would diagnose the art world's recent fascination with ambience. Here "ambience" is understood as the soothing atmospheric or environmental sounds prevailing in contemporary sound art exhibition contexts lacking critical and conceptual rigor as Kim-

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10Referring to interviews I conducted with the many renowned sound designers, production mixing specialists, mixing engineers, re-recordists, sound editors and location sound recordists in the context of the project Audible Absence (2016)

Cohen argues. These later perspectives however do not consider the site-specific evidences provided by ambient sound in any work of sound production to stimulate a sense of presence and embodiment.

From a positioning of a sound artist and practitioner myself, I make a counter-argument here, that in field recording-based sound art the mimetic[11] representation of a site in the form of ambient, environmental and natural sounds tends to develop more into unrestrained, idiosyncratic, playful, and often subjective, constructs. These constructs, as I reflect while critically listening to my own artworks, are typically a result of intricate interplays between recognition of the site and its abstraction in the compositional stages, utilizing the ambient sounds extensively recorded on the field as compositional ingredients or raw materials. Field recording-based sound artworks often transcend the Schaferean notion of the soundscape. These works neither give substantial importance to underscoring stereotypical "soundmarks" of the site, nor do they intend to enhance the "ecological" discourse of differentiating between "lo-fi" and "hi-fi" environments. These works, in my assumption, encourage a rather subjective interaction with the site. As Brandon LaBelle articulates, "artistic production is but a mirror of the artist's own image: mimesis depicting interior states, psychological anxieties, euphoric hopes, and ecstatic dreams. Art represents life at its most poignant, its most dramatic, and its most memorable" (LaBelle, 2006: 212). The artist's own image of the site as derived from the interaction with the site while doing field recording frames the selfhood to be inscribed in these sound artworks. The artist's subjectivity also reflects in the way these works are "composed." The interviews with field recording artists in the book *In the Field: The Art of Field Recording* (2013) reveal the current discourse on field recording as an artistic practice. The discourse reveals and contributes to a larger debate between a "realistic presentation" and an artistic intervention, transformation, mediation and manipulation of sound. This tension often challenges and dictates the artistic decision as to whether field recording in its presentation as a composition should be processed or presented in its raw form, that is, with as little post-production editing as possible. This decision largely depends on the artist's intentions in approaching a specific site as a subject of artistic intervention and aesthetic transformation. Many listeners and artists alike tend to appreciate works that are unprocessed. Likewise, the deliberate choice of medium and methodology for particular recordings may contribute to a perceived compositional structure without the need for artistic transformation. Needless to say, this choice of preserving the rawness of sound materials for the potential listener's interpretation essentially arises from a preference for "purity" in the artist's sonic sensibility. Taking part in this debate, I argue that the choice of method largely depends on the desired intervention of the artist to produce a certain narrative of the site. In most cases, the site-specificity of the recorded sounds are deliberately altered by further compositional mediations, be they entirely based on recording or involving studio processing. However, I show that sound artworks that go through artistic transformation via compositional mediations using sound recording and spatialization techniques might appeal to a wider range of engaged listeners than a purely documentary approach of field recording would do. Through artistic interventions and transformations, sites are rendered in intimate, and thoroughly nuanced ways.

11Opposed to the basic tenets of diegesis, i.e. narration and depiction, "mimesis" as a concept suggests imitation or representation (Kassabian, 2013; Weiss, 2011).

I would like to point out here how the discourse of "acoustic ecology" becomes reconfigured in the shift from ambient sounds recorded at the site to the production of what is termed "soundscape composition," taking a point of departure from a Schaferean terminology of the soundscape (Kelman, 2010) and underscoring artistic freedom and aesthetic sensibilities. Using this particular term to denote compositions developed from field recordings, Sound Studies scholar Joanna Demers argues that field recordings as "audio footage ties a soundscape composition to the ecological, social, historical, or cultural dynamics of a specific location, which both personalizes and politicizes the act of listening" (Demers, 2010: 120). What she means is that the material layers of ambient sound collected through field recording from a particular site always also carry some documentary evidence. The composition also allows the listener to co-create the way the site is perceived. To give the listener a fertile space or open-ended situation in which to listen in an engaged, embodied, and subjective way, the artist might choose to intervene in and artistically transform the field recordings in such a way that they would be considered artwork rather than pure documentary.

This capacity of ambient sounds to provide site-specific evidence in sound art does not differ from that of ambient sounds in film production, but what is unique is a distancing from an ontologically-driven approach to a site, weaving it, rather, into an ambivalent reproduction that is open to multiple contingent interpretations "by bringing place out of place and toward another" (LaBelle, 2006: 213). It is no surprise that Demers finds sound in an artistic context "a tantalizing phenomenon that simultaneously discloses and hides a great deal about its origin" (Demers, 2010: 115). To substantiate my explanation of why I believe artists prefer to avoid presenting field recordings as purely documentary works, I refer here to John Drever's essay "Soundscape Composition: The Convergence of Ethnography and Acousmatic Music" (2002). In this essay, Drever describes "soundscape composition" as the juxtaposition of site-specific ethnography and musical composition, incorporating ambient sound as its key ingredient. This articulation takes into account the aspects of convergence between the site-based evidence embedded in the field recording and the sonic abstraction brought about in the artistic practice of recording and/or composing. Both Demers and Drever's formulations depart from the Schaferean notion of the "soundscape," embedded within environmental and ecological perspectives of rural and urban sites, in order to embrace the artistic possibilities of field recording.

4 Case studies: Indian films and sound artworks

Indian cinema is notorious for producing typical sound experiences that are based on an overwhelming use of "song and dance" sequences whereby careful incorporation and attentive organization of sounds are generally ignored in the narrative strategy (Rajadhyaksha, 2007; Gopalan, 2002). There are indeed many examples from popular Indian films that have kept mindful sound design at bay, mostly creating a loud and high-pitch auditory setting to provide a remote and imaginary cinematic landscape. Challenging this popular preconception about Indian cinema in the larger public, in this paper I intend to show that this generalized perception of Indian cinema could be erroneous if we consider the historical trajectories of sound production as opposed to exporting an essentialist typecast. The advent of digital technology indeed makes it possible to incorporate rich layers of prominent sound components, namely ambience, in the production scheme of

sound organization in the current breeds of Indian films made in the digital realm. There is a new breed of Indian films that methodologically distance itself away from the popular mainstream Indian cinema known for its typical narrative tropes of the spectacular but escapist song-and-dance extravaganza. This new breed of Indian films captures an immersive immediate reality of contemporary India (Chattopadhyay, 2016). In my previous research (2013, 2014, 2015, 2016) I have indicated a major spatial shift within Indian cinema, marked by the proliferation of a new trend, with audiences increasingly feeling a need to relate to the convincingly real and believable sites within the constructed film space as a diegetic universe. A number of recent films such as *Asha Jaoar Majhe* (Labour of Love, Aditya Vikram Sengupta, 2014), *Court* (Chaitanya Tamhane, 2014), *Masaan* (Fly Away Solo, Neeraj Ghaywan, 2015), and *Killa* (The Fort, Avinash Arun, 2015) do not rely on the music, or practically do away with it, using instead a reduced amount of dialogue (or no dialogue, as with films like *Asha Jaoar Majhe*) in the narration. These films are packed with rich layers of ambient sounds: street noises, car horns, tram bells, voices of street hawkers, cats meowing and crows cawing, background radio's news announcement, and other recognizable mundane ambiences that are present in the everyday life of India. Due to this careful inclusion and elaborate spatial organization of ambient sounds, these films have a "gritty documentary feel" to them, marked by an immersive immediate realism that stands strongly in contrast to the typical song-and-dance films from the conventional *Bollywood*. These independent films represent a renewed sense of situated-ness in everyday life, meticulously portraying ordinary sites known through a lived experience in contemporary India with its emerging urban spaces and transforming rural hinterlands. Due to their narrative strategies, these sites become another character within the diegetic narrative, contributing a resounding presence of the site in the film space. Take for example a typically commercial film, *Highway* (Imtiaz Ali, 2014). Even such a commercial film incorporates a deep layer of ambient sounds from various sites of northern India through which the two characters travel. These sites become significantly audible throughout the first half of the film. As informed by the sound designer of the film Resul Pookutty, these layers were all collected through the technique of digital multi-track sync sound recording and multi-channel surround sound design, now becoming standards in Indian film production. The emerging spatial sensibility in the digital realm's sound production becomes apparent in the way contemporary Indian cinema incorporates the proliferation of ambient sounds that play out in the mind of the audience a believable topography relatively closer to the lived experience of place. The use of ambient sound via the intricate digital surround spatialization[12] of these sonic layers produces an enhanced sited experience of sound. It is no surprise that the current breed of Indian films, made with digital technologies, compels the audience to utilize their sensorial and ambient or environmental faculties of listening. This new realm of sound production supports the emergence of an embodied experience of the site. However, there are industry norms and regulations firmly in place now allowing the practitioner's individual artistry to flourish seamlessly. In *Highway* the two protagonists (the abducted girl and her fugitive captor) travel through many cities and small towns and rural hinterlands of north India in a truck, staying in hidden places for a few days before running away. Every place is established with a certain "soundmark" specific to the site. A place in the state of Rajasthan, in north India, for example, is narrated through the distant and proximate calls of the Peacock,

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12In multichannel experimental soundscape composition and electro-acoustic music creation, production and performance, the term "spatialization" is increasingly used to denote diffusion of sound in space. The origin of the term can be found in the English translation of the French term "l'espace," introduced by Henri Lefebvre (1974) with reference to sociocultural perception and cognition of geographical space.

since Rajasthan is well known home for a wide variety of Peacocks. This tendency to underline a particular sound, often at the expense of many other ambient sounds emanating from the specific sites and their vibrant environments, serves as a kind of sonic "compensation" for the noise reduction and editing of sync sounds in the post-production. These "industrial" norms, rules and regulations embedded in the film industry's sound production practices hinders the practitioner in applying a more artistic approach that might further enrich the sound experience offered by the film.

On the other hand, sound works produced from similar sites in India use ambient sound with playful and transformative intervention of the artist. I mention two works:

Elegy for Bangalore (2013) is a soundscape composition for stereo and multi-channel format, premiered at Klangkunst, Deutschlandradio, Berlin and released by Gruenrekorder on CD. Stemming from the sound/video installation-project *Eye Contact with the City* (2010 – 2013) the result of an artists' residency in Bangalore, the primary materials used in the installation are extensive field recordings made at various construction sites of Bangalore and retrieved sounds from archival reel-to-reel tapes found at the city's flea markets. The repository of field recordings and other audio materials eventually took the form of this elegiac composition during a subsequent artist residency at the School of Music, Bangor University, in 2011.

Decomposing Landscape (2015) is an award-winning sound work that offers in-depth listening to the transfiguration of rural landscapes in India, undergoing environmental decay and destruction. Using field recordings made on the site, and diffusing sound in a third-order Ambisonics B-format, the work is an exclusively multi-channel sound composition. The work has been developed through a meticulous collection of ambient sounds from an SEZ (Special Economic Zone) in India during extensive fieldworks over several years. The collection has been forming a digital archive that was instrumental in realizing the work, which was composed, mixed and produced at ICST, Zurich University of the Arts, during an artist residency in 2014. The work has been released in 2015 by Touch (UK) as both Binaural and Ambisonics mixes.

5 Reflective analysis and further commentary

In the two sound artworks cited, the tension between site-specific evidence and compositional abstraction engages the attention of audience in inclusive and often playful ways. Take for example my work *Elegy for Bangalore* (2013), which has been based on field recordings made at various metro construction sites in Bangalore. Materials of the piece also included retrieved audio from old reel-to-reel tapes found at a city's flea market. This extensive repository of field recordings and other audio materials eventually took the form of an elegiac composition, infused with random recordings gathered through sonic drifting and reflecting the perceived longing of the past prevalent in the rapidly modernizing urbanization of India. The work creates a conceptual, practical, and methodological premise for in-depth listening to the passage of time and offers a psychogeographic reflection on emergent urban sites in India, with their chaotic, noisy, and hybridized sonic environments, many of which are often absent in Indian films. The artistic methodology involving psychogeographic drifting helped me to shape the general outer appearances of the city that had become registered in my mind as a personified construct. Emphasizing a subjective and adaptive

auditory perception, *Elegy for Bangalore* suggests a kind of apt ethnographic methodology for listening to a noisy Indian city by engaging with the multilayered ambience and for composing a "truthful" and nuanced sonic portrayal of the city as opposed to a functional and controlled use of ambient sound in Indian films.

Take, for comparison, the example of an Indian film, shot also in Bangalore during the same period when recordings for *Elegy for Bangalore* were made, *Gori Tere Pyaar Mein* (In Your Love O Lady, Punit Malhotra, 2013). The locations – such as street corners, restaurants, and airports depicted in the story-world – are depicted with fewer sonic details than necessary for an inclusive and thorough understanding of these urban sites and their auditory characters. Although shot with sync sound technique, the sonic quality of Bangalore as a site has been practically erased within the filmic space.

These examples show that both film sound and field recording-based sound art utilize recordings of sound from particular sites and use similar technological tools and equipment. There are, however, fundamental differences in their approaches to the utilization of ambient sounds. This difference of approach stems from the structures of functionality and storytelling within which sound is deployed in cinema as a narrative component. In many occasions, the dense and noisy parts of the ambient sound recordings are controlled and sanitized through editing and advanced noise reduction to provide "cleaner" sonic textures, whereby more "aestheticized" and rather sterilized accounts of the sites are heard. This compulsion for achieving clarity in the cinematic soundscape leads the sound practitioner to often employ easy and obvious "soundmarks" instead of accurately capturing and rendering the complete ambience of the sites. This tendency toward highlighting a stereotypical sound, often at the expense of the many other ambient sounds emanating from a specific site, is meant to balance out the noise reduction and editing of digital sync sounds during post-production. These "industrial" norms, practical rules and regulations embedded in the essentially "functional" aspects of film sound production often tend to hinder the artistic potential of the sound practitioner and often fails to further enrich the film's spatial features.

In the light of (more or less recent) historical developments in sound production and looking towards a future scenario, this paper instigates a reconsideration of the concept of "presence" precipitated by the practice of ambient sound in film and sound art as the mediated construction of reality. Reading these trajectories of understanding presence, one primary theme emerges, namely a contribution to the sense of embodied experience through a perceived notion of realism. This sense of embodiment elicited by this perceived realism is a literal translation of stepping into a site "present" through its acoustic elements. Through the use of sync sound recording and surround design in the digital realm of cinema, similar to any other augmented digital media environment, "spatial presence" is produced to the degree to which an audience "feels that the mediated environment and the objects within the environment that surrounds him or her is real to the extent that the environment responds realistically" (Ahn, 2011: 25). Looking through the lenses of sound art, the presence of a site in Indian cinema emerges in terms of a functional approach in mimetically (re)presenting sound's inherent site-specificity. Presence is, therefore, often "manufactured," technically crafted and/or constructed, rather than being an immediate, sensitive, and direct exploration of the many layers of the "real" India and its nebulous but wonderful sites. In sound art, conversely, the artist has the likelihood to intervene more

intimately and render a rather nuanced account of the site. Therefore, the possibility of multiple interpretations of these works in a more open-ended way leads to a condition of a "poetic presence". Likewise, in my sound artworks, similar to many other field recording artists, capturing the real or constructing the presence of the real is not the primary aim, but, as Christoph Cox notes in general on post-Cagian sound art, my field recording "offers […] an aural opening onto a region of this sound" (Cox, 2009: 23). The works foreground the "background" by framing, accentuating (LaBelle, 2006), or amplifying (Cox, 2009) the "real" to trigger fertile imagination and a ground for the listener to participate.

Conclusion

Ambient sound can be defined as the site-specific background sound component that provides locational atmosphere and spatial information in film and media art production. Ambient sound is generally the primary material in the hand of the sound artist and practitioners to sculpt the sense of presence and embodied experience of a site within the interior world of a sound work. There is a formidable absence of the subtler actualities of the sites in the Indian films by way of a functional but controlled use of ambient sounds. The apparent intensification of presence in contemporary Indian cinema is largely artificial and constructed. In sound art, conversely, the artist has the likelihood to intervene more intimately and render a rather nuanced and more inclusive account of a site by playful practices of field recordings with ambient sound. This comparative study intends to suggest that filmmakers and media producers should have some responsibility while projecting site-specific reality, and practitioners need to be more connected to the reality they portray and narrate in their works.

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6. A Danceable Shower of Bullets: Sound Morphologies and *Neurosis* in the Genesis of an EDM Beat

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Abstract. The processes that lead from volt-mix to *tamborzão*, two *bases* (beats) of *funk carioca* (funk from the greater Rio de Janeiro city), the first Brazilian genre of electronic dance music, are analysed with reference to Pierre Schaeffer's *typo-morphology of sonic objects* (1966). Produced in Los Angeles in 1988, volt-mix was popular in the Rio de Janeiro state during most of the 1990s; produced in Rio in 1998, *tamborzão* was popular in Brazil in the earlier years of the millennium. Three of the four classes of micro-objects that make up, each, one of the four lines of the volt-mix loop follow the attack/resonance model, as do the three classes of micro-objects that make up, each, one of the three lines of the *tamborzão* loop. Volt-mix classes present differences of *facture*, *grain*, and *harmonic timbre* as well as of *site* and *calibre* of *mass* in the *field of pitches*; *tamborzão* classes display similarities of facture and harmonic timbre as well as of site and calibre of mass in the field of pitches. As hyper-objects, both loops are *pedals of cells*, each cell corresponding to one cycle of the loop. The volt-mix cell resembles a *thread* of *complex masses*; the *tamborzão* cell resembles an *accumulation* of complex masses. This accumulation results from withdrawal of the overall calibre of mass from the upper region of the tessitura, and from greater proximity, interdependency and amalgamation of texture lines. Such transformations are viewed as instances of Gilbert Simondon's *concretization* (1958), and they are synchronous with changes in the geopolitics and human geography of *bailes funk* (funk dances). As the volt-mix morphs into the *tamborzão*, the epicentre of these events moves from clubs in the suburbs and periphery to favelas, and *funkeiros* (funksters) become subjected to tensions arising from control of their spaces by rival factions of illicit substance retailers. These shifts coincide with the rise of a human character, the *neurótico* (neurotic), and with the collective feeling of *neurose* (neurosis) associated with circulating in those territories, as Carla Mattos's ethnography (2006) demonstrates.

Keywords: *funk carioca*, baile funk, volt-mix, *tamborzão*, electronic dance music, EDM beats.

1   Introduction

In a previous article (Caceres et al., 2014) we have sketched the sound morphologies of three *bases*[1] (henceforth beats) of *funk carioca*, the first Brazilian genre of electronic dance music, each of which associated with one decade of this music: *volt-mix* (1990s), *tamborzão* (2000–2009) and *beatbox* (2010s). We have observed that the passage from volt-mix to *tamborzão* entails a reduction of activity in the upper region of the beat texture, whereas that from *tamborzão* to beatbox results in losses in the lower region. Furthermore, we have shown that such reductions are synchronous with a generally accepted narrative concerning the geopolitics of the *bailes*[2] (henceforth dances): these events started in clubs of the greater Rio de Janeiro city suburbs and periphery in the 1980s; they were expelled from there in the second half of the 1990s; and they took root in the favelas from 2000 to 2008, at which point perversely devised public security policies started to uproot them (for a case study, see Facina and Palombini, 2016). The eviction of funk dances from clubs to favelas coincides with the passage from volt-mix to *tamborzão*, and with losses in the upper region of the tessitura. Their eradication from favelas coincides with the passage

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1 A *base* (beat) is the local version of the *beat* or *break beat* of African-American hip-hop; on beats and break beats see Katz (2012: 14) and Rose (1994: 73–74)

2 *Bailes* (dances) are events in which *funk carioca* is played, sung and danced by DJs, MCs and funksters.

from *tamborzão* to beatbox, and with losses in the lower region of the tessitura. The diachronic morphology of beats thus links *funk carioca* to a well-known trope in the historiography of samba: the oppositional pair *morro*/*asfalto*, in which *morro* (hill) designates the hillsides where the poor build their homes — and, by metonym, the poor themselves — whilst *asfalto* (asphalt) refers to the urban areas with regular public services where the middle and upper classes generally live. Perhaps because in the meantime the number of favelas on flat surfaces has increased and suchlike favelas have played a significant role in the development of the genre, the historiography of *funk carioca* replaces *morro* with *favela* to engender the *favela*/*asfalto* oppositional pair. The present article details the processes whereby the volt-mix turns into the *tamborzão* and inquires about the meaning of this mutation.

2   Beats

In *funk carioca* of the 1990s, a beat is generally an instrumental version, usually on the B-side of imported singles, as used in rhythmic counterpoint to vocal expression, be it *rima na hora* (improvised rhyme) or pre-composed rap[3]. Such instrumental versions started being commercially recorded in 1971 in Jamaica (Brewster and Broughton, 2000: 119). Any DJ could have submitted such tracks to procedures analogous to those Pierre Schaeffer employed in his *Cinq études de bruits*[4], whose genesis he narrates in "Introduction à la musique concrète" (Schaeffer, 1950). In the Paris of 1948, acetate recordings of every sound, their manipulations by acceleration or deceleration, their cuts, fades, loops, modulations of intensity and contrasts of colour, as well as the alternation or superimposition of heterogeneous segments, all became compositional devices. The *funk carioca* school of DJs does not have roots in Paris but in the New York Bronx of the 1970s (Brewster and Broughton, 2000: 203–229): DJ Kool Herc developed the technique of employing two copies of the same recording so as to alternate a single break beat between one turntable and another thus creating loops; DJ Grandmaster Flash showed the possibility of deconstructing and reconstructing pre-recorded music with two turntables and a dozen tracks; DJ Grand Wizard Theodore explored scratching[5], whereby the turntable became a kind of *cuíca*[6]. In the early 1980s, DJ Afrika Bambaataa resorted to electronic devices to develop electrofunk.

The technical proceedings of Brazilian DJs of the 1990s have not yet been compiled. Musical productions in deferred time evince variation and derivation of beats by combination of segments from imported tracks and by interpolation or superposition of elements from Afro-Brazilian recordings (Raphael and Palombini, 2014). Although common sense repeats that *funk carioca* derives from Miami bass, the most popular instrumental track of the period, the "808 Beatapella Mix", on the B-side of the single *8 Volt Mix*,[7] is an obscure representative of Los Angeles electro that DJ Nazz (Carlos Machado) discovered in the US and distributed in Rio. The "808 Beatapella Mix" has often been used in the form of a four-bar loop (Fig. 1), with splash added to the last snare drum of the cycle and the subsequent hi-hat removed.

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3 "Rap music is a form of rhymed storytelling accompanied by highly rhythmic […] music" (Rose, 1994: 2).

4 Available from http://goo.gl/59q0lt.

5 On scratching, see Rose (1994: 53) and Katz (2012: 10).

6 A Brazilian friction drum used in samba.

7 Available from http://goo.gl/3I7BwR.

Fig. 1. The volt-mix loop transcribed by Lucas Ferrari: on the lower lines, *bass drum*, and *snare drum*; on the middle line, *voltage oscillation*; on the top line, *closed hi-hat*.

The volt-mix texture characterizes itself by the range of its tessitura, from lower low (bass drum on the lowest line) to medium (snare drum on the second line) and upper high (closed hi-hat on the fourth line). Notated in semiquavers on the third line, a rebound in the form of double clicks (Fig. 2) cyclically crosses the medium from end to end, thus linking upper-low and lower-high registers. This musical figure was obtained by connecting the trigger output[8] of the drum machine to the audio input of the recording console, as done by The Masterdon Committee in "Funk Box Party" in 1983 and by The Egyptian Lover in "Egypt, Egypt" in 1984.[9] Yet, because the sonorities of the TR-808 are purposefully hyper-real,[10] rebounds of voltage do not strike a discordant note among pre-programmed sounds.

Interline spacing confers transparency to the texture. Clearness of contours follows from the different densities of each line; from their different degrees of *originality*[11]; from their different *masses*[12] and *factures*[13] — each line evocative of percussion on skin, percussion on skin with added rattle of metal wires, and percussion on metal.

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8 This output allowed the TR-808 to control other devices before the MIDI era.

9 Both tracks are available from http://goo.gl/KBQsYm.

10 See the anecdote concerning the cymbal sound in Wolbe (2013).

11 "The degree of originality is, in general terms, that which surprises prevision" (Schaeffer, 1966: 436).

12 *Mass* is a "criterion of [sonic] matter that […] corresponds to the *occupation of the field of pitches by the sound*" (Schaeffer, 1966: 401).

13 The criterion of *facture* refers to "the manner in which energy is imparted [to the sounding object] and manifests itself in the dura-tion [of the sound], in close relation with the maintenance" (Schaeffer, 1966: 432).
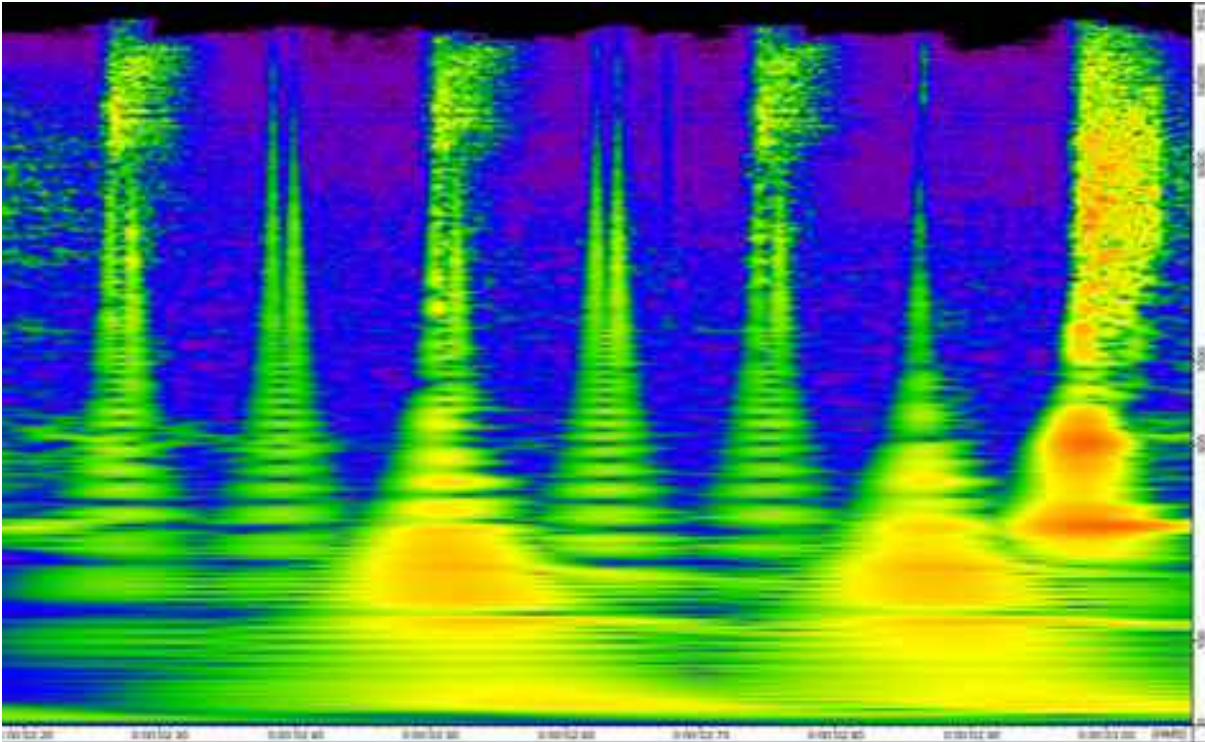
Fig. 2. The five *double attacks* of *voltage oscillation* terminating on a *single attack*; odd-numbered *attacks* coincide with *closed hi-hat*; the third attack also coincides with *bass drum*; the sixth one coincides with *bass drum* only.

Pierre Schaeffer's *solfège of the sonic object* (1966) expounds the notion of *perceptual field*:

> […] a first quality of the field of perception is to be able to compare two objects, discovering in them a single property. A second one is to be capable of ordering these values. A third is to manage to fix the degrees of this scale with greater or lesser accuracy. We may thus equalize colours quite precisely without being able to find relations of octave or fifth between them, and for good reason. (Schaeffer, 1966: 383)

He propounds three such fields: a perceptual field of pitches, a perceptual field of durations and a perceptual field of intensities. We shall concern ourselves exclusively with the *sites* and *calibres* of *complex*[14] masses in the perceptual field of pitches. The site of a mass in the field of pitches is the place in which this mass is located in the tessitura according to *ordinal*[15], relative scales. Its calibre is the area that this mass occupies therein: at one extreme, white noise spans the entire field; at the other, the sine wave occupies one point in there. Between one extreme and the other, we find different noise bands. Figure 3 represents the sites and calibres of snare drum, closed hi-hat, bass drum and voltage oscillation as well as three planes: in the forefront, bass drum and snare drum; in the background, voltage oscillation; in between, closed hi-hat.

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14 *Complex* masses are those of sounds without definite pitch.
15 Differently from complex masses, *tonic* masses present definite pitches, which can be precisely sited without reference to other sounds; for this reason, their scaling is termed *cardinal*.
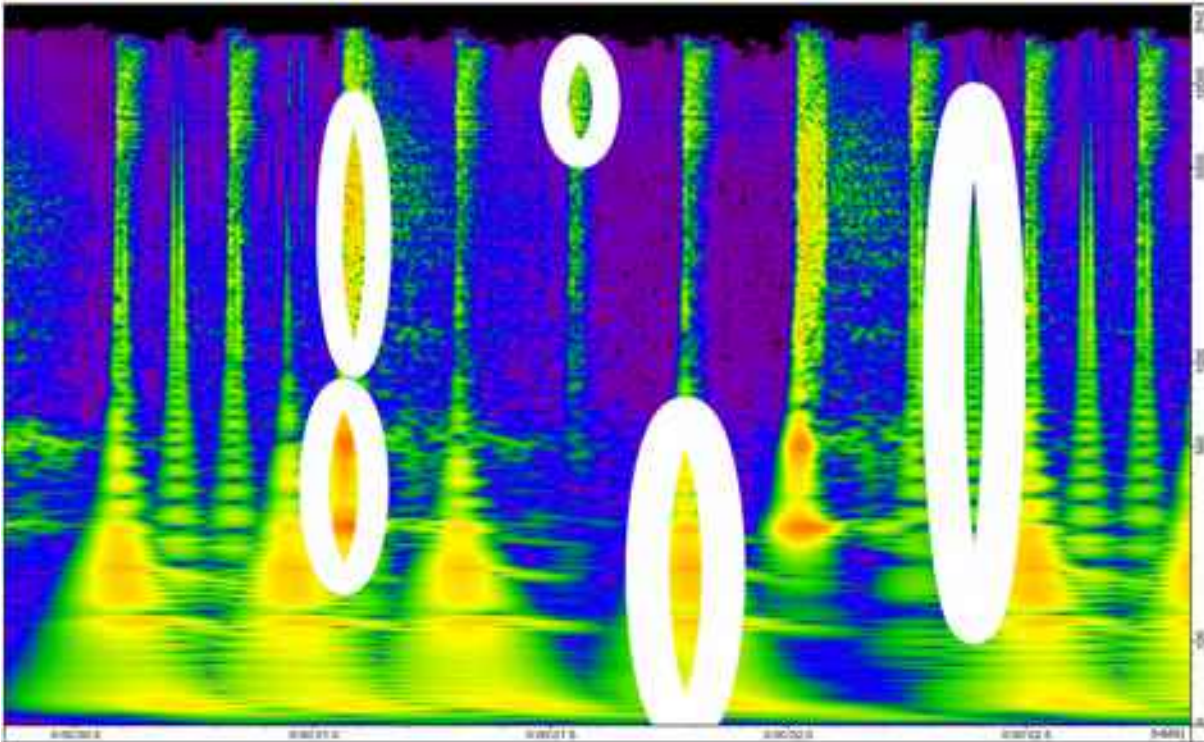
Fig. 3. Representation of *sites* and *calibres* of: *snare drum*, with attack in the *lower medium* followed by granular resonance in the *middle* and *upper medium*; *closed hi-hat* in the *upper high*; *bass drum* in the *low*; and *voltage oscillation*, sweeping the *medium* register from end to end. Also represented are three *planes*: *bass drum* and *snare drum* in the *forefront*; *voltage oscillation* in the *background*; *closed hi-hat* in *between*.

3   Hearing the volt-mix top-down and bottom-up

Let us now use the low-pass filter (LPF) and high-pass filter (HPF) functions of the Acousmographe to hear successively enlarged bands of volt-mix frequencies. Since wavelet representations (Figs. 2–3 and 8–10), though more compliant with aural perception, are unreliable so far as frequency measurement is concerned, I have preferred the linear scaling of spectrograms. An MP3-encoded recording of the "808 Beatpella Mix" has been used because this format has prevailed since Internet distribution took off around 2005. Moreover, comparison between similarly encoded files reduces the interference of format-dependent variables. It is therefore the beat of yesterday as it is heard today that we are talking about.

In the region above 20.000 Hz the hi-hat pattern is bumpy and contains irregular accents in places where hi-hat and snare drum meet. This pattern becomes relatively even when the cut-off frequency is lowered to 16.000 Hz. What we hear then is the far-distant repetition of the consonantal diagraph sh. If the frequency band is extended down to 13.000 Hz we begin to discern a high-pitched sound similar to that of a cricket, in correspondence with the high end of the snare drum. At approximately 9000 Hz all attacks become similar to the combination of a sheesh with a cricket, the crickety element prevailing whenever the snare drum is present, in which case the intensity is greater and duration is longer. If we move the cut-off frequency down to 6000 Hz this pattern gains

body and takes shape. When the cut-off frequency is set to 4000 Hz, the sixth note of the voltage oscillation makes itself heard. As we move further down along the frequency axis the voltage figure gradually enters the scene. Shifting from LPF to HPF, the bass drum appears at a cut-off frequency of around 60 Hz and keeps the lower region all to itself up to a cut-off frequency of 100 Hz.

4 Montage

Amongst the range of *funk carioca* subgenres the word *montagem* (henceforth montage) characterizes the autonomy of the producer-DJ in the selection and combination of heterogeneous sound materials, especially voice recordings, which they organize in fragmentary and repetitive ways. In the European avant-garde of the post-war years, Schaeffer's 1948 "Étude pathétique"[16] (Schaeffer, 1950: 42–43) may be considered a precursor. On the other side of the Atlantic, the Chicago DJ Farley Jackmaster Funk explored the fragmentation and repetition of his name in the track "Farley, Farley", on the B-side of the EP *Funkin With the Drums Again*, released on the house-music label Trax in 1985. In the early 1990s *funk carioca* would turn such procedures into a subgenre in its own right.

A conversation between Afro-diasporic cultures is audible in early instrumental montages that include recordings of *berimbau* — a Brazilian gourd-resonated musical bow with ancestors in Africa. Among the simpler productions, "Berimbau Volt"[17] starts with a *berimbau* that continues after the entrance of the "808 Beatpella Mix". "Berimbau São Bento"[18] employs the same formula but uses a two-bar volt-mix loop instead. Somewhat more complex, "Berimbau Pipo's",[19] named after the Equipe Pipo's (Pipo's sound system), starts with a superimposition of *berimbau* on a loop extracted from the percapella mix of the single "Bleeding Heart", by the Los Angeles female dance-pop duo Bardeux (from their 1988 album, *Bold as Love*); the "808 Beatpella Mix" enters; the combination of *berimbau* and Bardeux continues throughout; the beatpella ceases, prepares its re-entrance, and the ensemble carries on. Probably due to its Afro-Latin feeling, early *berimbau* montages developed a taste for the Bardeux loop, as shown by "Berimbau agitado I",[20] "Berimbau agitado II"[21] and "Berimbau Studio Rap".[22] All these montages pertain to the earlier half of the 1990s and have been rescued by DJ Daydanic from MDs that once belonged to the Cash Box and A Muralha sound systems.

Early montages were created on the Tonos Audio Center Control IC-3 (Fig. 4), manufactured by Empresa Brasileira de Equipamentos Eletrônicos (Embrasom), later replaced by the Gemini PDM-7008 and Gemini PDM-7024 (Fig. 5). The latter offered five memory slots with the capability to store up to twenty-four seconds of sound distributed among two two-second slots, two four-second slots and one twelve-second slot. Also in use was the Gemini DS-1224, equally with twenty-four seconds of storage.

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16 Available from http://goo.gl/t2ARbY.
17 Available from http://goo.gl/g8Wulm.
18 Available from http://goo.gl/lw8D6Q.
19 Available from http://goo.gl/Rv5nFA.
20 Available from http://goo.gl/VHUU71.
21 Available from http://goo.gl/vc2gAw.
22 Available from http://goo.gl/UpPdtm.

Fig. 4. The Tonos Audio Center Control IC-3, manufactured by Empresa Brasileira de Equipamentos Eletrônicos, the Embrasom.

Fig. 5. The Gemini PDM-7024 preamp mixer with five memory banks.

In 1993 DJ Mamut (Ronaldo Pimentel da Silva) created "Contexto 2"[23], now known as "Jack Matador" (Killer Jack), released in 1994 by DJs Fabinho and Mamut on the LP *Pipo's 2: o encontro da massa*[24]. "Jack Matador" acquired pop status in the underground and engendered countless responses in the form of newer tracks (Essinger, 2005: 110–113), thus establishing the reputation of the subgenre. In 1994 the fourth *Beats, funks e raps* album,[25] produced by DJs Grandmaster Raphael (Angelo Antônio Raphael) and Amazing Clay, presented DJs Alessandro and Cabide's (Everton Ramos de Araujo)

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23 Available from http://goo.gl/6025ud.
24 Available from http://goo.gl/hWsHVo.
25 CD version available from http://goo.gl/9oWq4r.

"Macumba Lelê":[26] an *atabaque* beat starts; the *berimbau* develops figurations; the "808 Beatpella Mix" enters; the *atabaque* varies. The term *atabaque* is popularly used for *candomblé*-sounding skinned barrel-drums in general. It designates herein a variety of loops that seem to converge towards the *tamborzão*. On the origin of this instrument, Spirito Santo writes:

> I have little doubt about the *atabaque* not being African. Neither is it Brazilian. I do however like to use its context — epoch, making, origins — to allude to losses of know-how and of access to materials by force of slavery: they have led to the use of casks as drum shells in ports of the American colonies. Because casks and the craft of coopery are directly linked to the packing and transportation of goods by ship, it is easy to imagine a relationship between the maritime trade in American colonies and the use of casks as drum shells: people of the African diaspora working in harbours. Nevertheless the form of that which we call *atabaque* is ostensibly Brazilian. It appears clearly in Bahia in association with *candomblé* [see Lühning, 2014], as iconography demonstrates. Other places are Uruguay, with her *candombe* [see Ferreira, 2014] drums, and Cuba, where the congas display an unsurpassable level of craftsmanship. They all belong to the same family. It is a history that organology recounts.[27]

5   *Melôs* and raps

The "Bleeding Heart" radio edit, first track on the B-side of the homonymous single, became locally known as "Melô da princesinha", which roughly translates as "The Little Princess Melody", though a *melô* is not exactly a melody.[28] The term alludes to a triple procedure that lies at the root of *funk carioca* and consists in: (*a*) providing English lyrics with sound-alike, humorously homophone Portuguese words; (*b*) naming those tracks as the "*melô* of such and such"[29] (William, 2012); (*c*) using instrumental versions as beats for traditional melodies or pop tunes to which new lyrics are added.

MC D'Eddy's "Rap do Pirão[30]" (rap of the Pira hill) was certainly not the first rap[31], but when it won the Clube Mauá[32] competition, in 1992, DJ Grandmaster Raphael recorded that performance live and started to broadcast it. The following year he included "Rap do Pirão" in the first *Beats, funks e raps* LP[33]. This music had on the new genre an effect similar to that which, in 1984, Jesse Saunders's "On and On" exerted on early house. As Marshall Jefferson puts it: "when Jesse did his stuff, everybody said, '*Fuck! I could do better than that!*'" (Brewster and Broughton, 2000: 307). MC D'Eddy triggered the age of raps, which would last until 1998, when MCs Tito and Xandão recorded an old-styled rap whose musical production contained the seeds of the new decade.

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26 CD version available from http://goo.gl/UTmKo2.

27 Personal communication of 28 June 2016.

28 *Melôs* tend to be satyric in mood and should not be confused with the romantic subgenre called "funk melody" or simply "melody".

29 A piece that included a dog's barking would become the "Melô do cachorro" (dog melody) while another presenting an Afro-Latin sounding pattern might become the "Melô da macumba" (witchcraft melody).

30 Pirão is the augmentative of Pira, a hill in the city of São Gonçalo. The name Pira derives from Mutuapira, the borough where the Pira hill stands.

31 When applied to *funk carioca*, the word *rap* may have historical connotations, so as to distinguish the age of *melôs* from the age of raps, but it can also serve as a short for *rap consciente* (conscious rap) or refer to relatively elaborate authorial narratives. The term *rapper* is reserved for practitioners of the musical genre we call, by synecdoche (*totum pro parte*), *Brazilian rap* or *Brazilian hip-hop*. *Funk carioca* artists are never called rappers but always MCs.

32 In the city of São Gonçalo.

33 Available from http://goo.gl/RosLxj.

6 *Tamborzão*

We do not know when Raça Rubro-Negra, a traditional association of Flamengo Football Club supporters, adopted a version of "Rap do Pirão" as one of their anthems. This music is now sung at entrance gates and on bleacher seats to the accompaniment of instrumental ensembles similar to those of *baterias de escolas de samba*[34] (henceforth samba school drum units).[35] Since exchanges between stadium shouts and funk dances logically predate the birth of the musical genre, football must have played an as yet uninvestigated role in the genesis of *funk carioca*. The same may be said of samba schools: in Rio de Janeiro, the personae of the football fan, of the samba school drummer and of the funkster frequently overlap.

Mestre Jorjão (Jorge de Oliveira) is a well-known *mestre de bateria* (henceforth master of drums) whose apprenticeship took place in Mocidade Independente de Padre Miguel, a West Rio samba school famous for the innovations of its drumming unit. In 1997 he was spending his second year as a guest master of drums at Unidos do Viradouro, on the other side of the Guanabara Bay, when he decided to underline repetitions of the *samba-enredo* (see Araújo, 2014: 744–746) refrain with what appears to be a variation of the volt-mix bass-drum/snare-drum pattern (Fig. 6).[36]

Fig. 6. A variation on the volt-mix bass-drum/snare-drum figure as used by Mestre Jorjão in the repetition of the *samba-enredo* refrain of Unidos do Viradouro in 1997; transcription by Lucas Ferrari.

The following year DJ Luciano Oliveira, also from West Rio, drew inspiration from the "funk[37] with samba school instruments" of the group Funk'n Lata — directed by Ivo Meirelles, from the iconic Mangueira samba school drum unit — in order to create, on the digital drum machine Roland R-8 MK-II, a loop "to increase, to give body to the [volt-mix] sound" (Oliveira et al., 2006). He therefore chose, edited and sequenced *ambo kick*, *attack tom 2*, *attack tom 1*, *slap high conga* and *open low conga* (Caceres, 2016). The resulting loop appeared in combination with the volt-mix in MCs Tito e Xandão's "Rap da Vila Comari"[38], produced by DJ Luciano in 1998 for DJ Márcio Lugarini's CD *DJ Lugarino apresenta os melhores da Zona Oeste*[39] (Lugarini and Palombini, 2014). Initially designated as *batuque*[40] or *tambor neurótico* (neurotic drum), this loop (Fig. 7) became known as *tamborzão*[41] (big drum) and appeared as a beat of its own in the 1999 montage

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34 On *escolas de samba*, see Cabral (1996); on their *baterias*, see Santo (2011).
35 A 2011 recording is available from http://goo.gl/Nw49Ni.
36 Available from http://goo.gl/APbTsd.
37 The term *funk* herein refers to the Brazilian version of the 1970s African-American genre (see Palombini, 2014) rather than to *funk carioca*.
38 Available from http://goo.gl/SQLhk4.
39 Available from http://goo.gl/Oc22nD.
40 "Generic name of African dances" (Andrade, 1999: 53).
41 Available from http://goo.gl/KJH5tx.

"A Gota",[42] by DJ Cabide, second track of the CD *A Gota, cerol fininho vol. 1: o som das galeras*[43] (see Oliveira et al., 2014). The following year DJ Dennis combined volt-mix, Bardeux and other beats with Afro-Brazilian patterns in the hit-CD *Furacão 2000: Tornado muito nervoso 2*.[44] A few years later he would exploit the new loop to the fullest in his production of MC Cabo's "Tire a camisa"[45] (take your shirt off).

Fig. 7. The *tamborzão* loop transcribed by Lucas Ferrari: on the lower line, *ambo kick* (K01); on the middle lines, *attack tom 1* (T01) and *attack tom 2* (T02); on the top line, *open low conga* (P14); and above the top line, *slap high conga* (P16).

In order to establish sites and calibres of masses of the *tamborzão* with some degree of precision we have had to reconstruct its lines one by one on an R-8 MK-II that once belonged to DJ Cabide (Figs. 8–10).

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42 Available from http://goo.gl/kCRFkU.
43 Available from http://goo.gl/Wr1Ng0.
44 Available from http://goo.gl/mWq06s.
45 Available from http://goo.gl/CWt5NF.
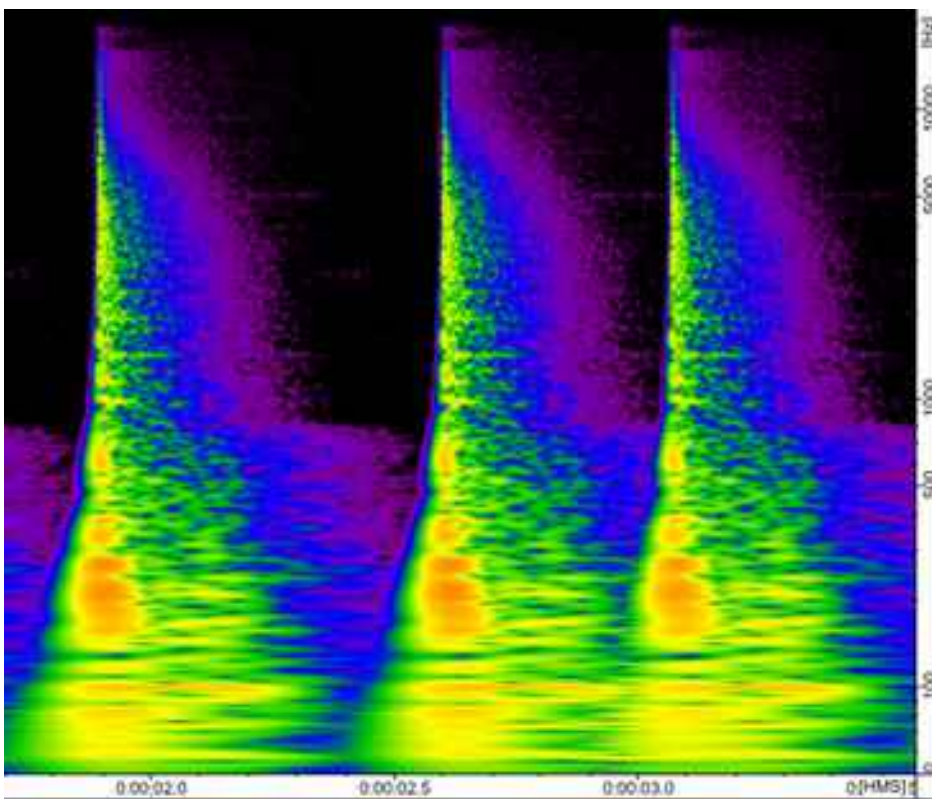
Fig. 8. *Tamborzão*: the three *K01* attacks; recording available from http://goo.gl/4i9ZsL.
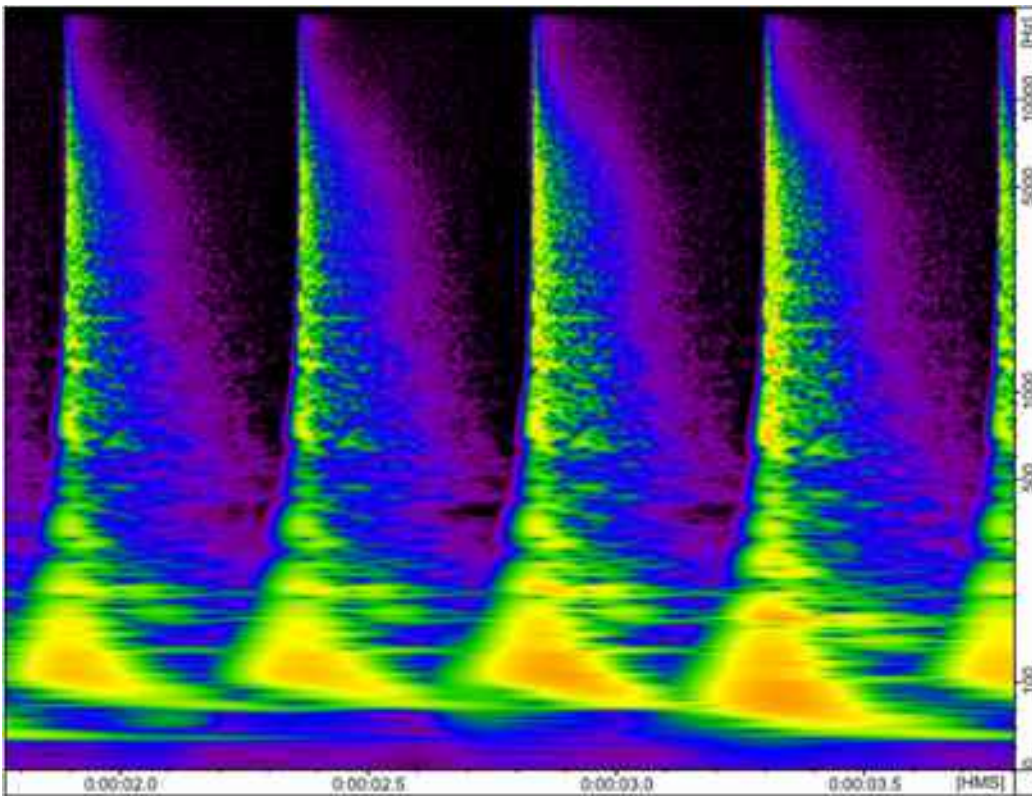
Fig. 9. *Tamborzão*: the three *T02* attacks followed by one *T01* attack; recording available from http://goo.gl/9SqoL1.
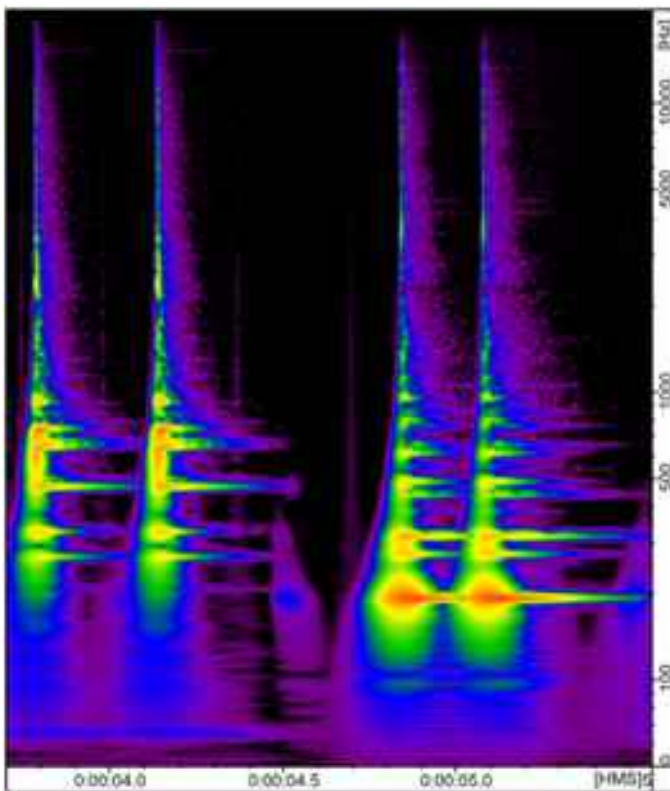
Fig. 10. *Tamborzão*: the two *P16* attacks followed by two *P14* attacks; recording available from http://goo.gl/oA6GUV.

Having isolated these objects, we were then able to locate their sites and calibres in the overall texture (Fig. 11).
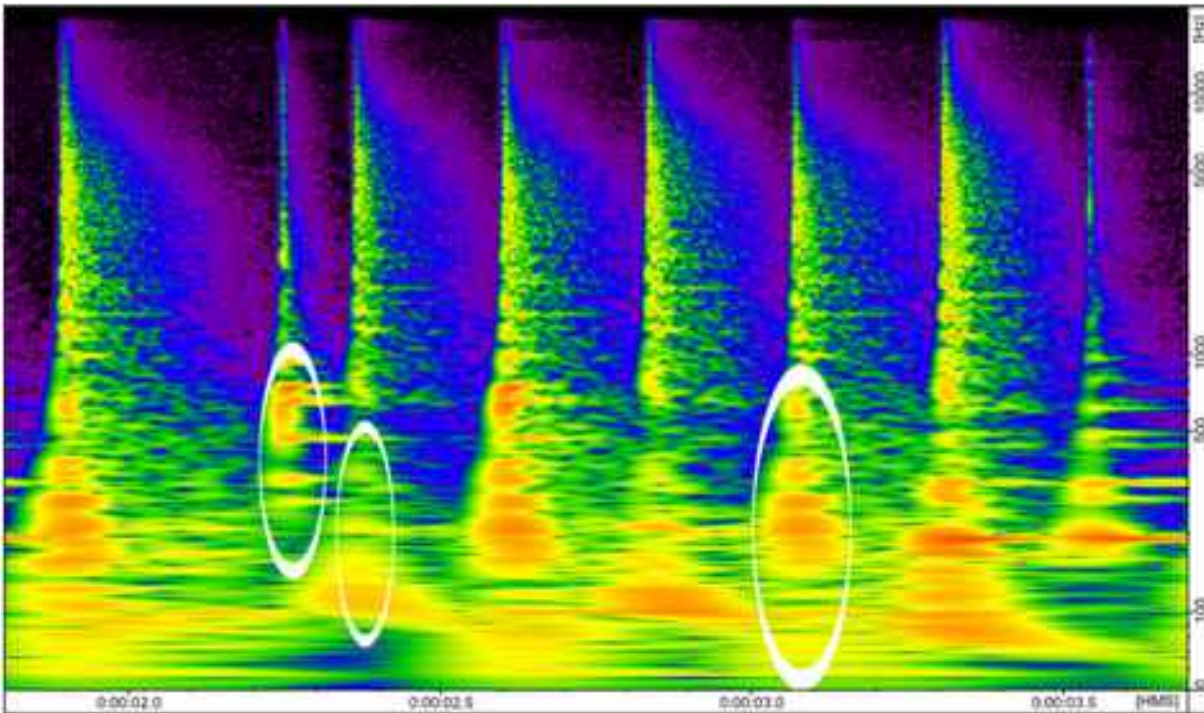
Fig. 11. *Tamborzão*: the relative *sites* and *calibres* of *P16*, *T02* and *K01* in the loop texture.

7 Hearing the *tamborzão* top-down and bottom-up

The *tamborzão* is almost inaudible in the region above 18.000 Hz. When we set the high-pass cut-off frequency to 12.000 Hz, the upper-end begins to display some coherence, furnishing a rhythmic synthesis of the pattern through a succession of high-pitched clicks. As we move the cut-off frequency further down along the frequency axis, these clicks metamorphose into congas and tom-toms. The ambo kick appears at a low-pass cut-off frequency of 50 Hz and stands alone in the lower end until that frequency is raised to 100 Hz.

8 Compared morphologies

By focusing our attention on different spans of duration we shall find sonic objects at three levels of complexity. Let us take loops for hyper-objects and segment them into macro-objects, or cycles of the loop, and then further segment these cycles into micro-objects, or *notes*. Notes are "*formed* sounds with fixed mass, meaning sounds whose matter answers to the criterion of homogeneity, except for their dynamics" (Schaeffer, 1966: 529). Formed sounds share the characteristic of "presenting good form, that is to say, of being fused together by an undeniable unity of facture, which corresponds to an optimal time of memorization for the ear" (Schaeffer, 1966: 443).

8.1 Micro-objects

8.1.1 Volt-mix

Volt-mix notes were produced on a Roland TR[1]-808 Rhythm Composer. This drum machine was manufactured from 1980 to 1983 and offers 16 on-board sounds that stylize acoustic percussions by means of analogue synthesis. The volt-mix loop uses three classes of such notes and ascribes each class to one of three lines: bass drum, snare drum and closed hi-hat, all of which follow the attack/resonance model. Instead of relying on pre-sets, a fourth line resorts to the technical device described in Section 2, resulting in a series of six *impulsions*, or abrupt attacks without resonance. Impulsions may seem "elementary, although their details, if time-stretched, could prove very complex (which the ear cannot grasp when duration is too short)" (Schaeffer, 1966: 438). Figure 2 shows that five of these impulsions consist of two attacks separated by so short a time gap that the ear is incapable of identifying *iterations* as such.

These pre-sets paraphrase the effects of beater and sticks hitting in various ways differently sized sounding-bodies made of different materials: metal for hi-hat; skin for bass drum and snare drum. Although bass drum and snare drum exhibit similar sounding-bodies of different sizes, their resonators vary: bass drum has an open resonator; snare drum has a resonating head; hi-hat integrates resonator and sounding-body into each of its cymbals. These factors account for differences of sound matter between the less transient component of attack/resonance classes, and such differences manifest themselves through the signature criterion of *grain*[2]. Bass drum shows no grain — unless by grain we mean the shaking of windows and walls. Snare drum obtains an iterative resonant grain as soon as its resonant head enters into vibration and into contact with metal wires. Closed hit-hat displays a resonance grain to which an iteration grain adds itself as a result of an interaction between cymbals.

This heterogeneous and yet coherent ensemble of characters allows for the ingenious interplay of values to which the volt-mix texture owes much of its appeal. The lower the site of the note, the longer it resonates, but bass drum, the lowest and longest one, lacks granulation and appears at the comparatively moderate rate of four notes per bar; snare drum, in the medium, with medium duration, is coarsely granular and appears at the low rate of two notes per bar; hi-hat, the highest and shortest one, is finely granular and appears at the high rate of eight notes per bar.

8.1.2 *Tamborzão*

Tamborzão notes originate from the Roland R-8 MK-II Human Rhythm Composer. This digital drum machine was released in 1992 and offers 200 on-board samples of sounds from acoustic instruments, from analogue and digital equipment (CR-78, TR-808, TB-303, TR-909) and from other sources. The *tamborzão* loop distributes samples of five acoustic instruments into three lines: ambo kick; attack tom 1 and attack tom 2; slap high conga and open low conga. All of these notes follow the attack/resonance model, but differently from the volt-mix, whose lines individually taken are all flat, the *tamborzão* presents

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1 Transistor Rhythm.

2 "A homogeneous sound may comprise a microstructure, generally due to the maintenance of a bow, of a reed or even to the roll of drumsticks. This property of the *sonic matter* evokes the *grain* of a fabric or mineral (Schaeffer, 1966: 548).

internal variations of site and intensity in the middle line, and of site, duration and *harmonic timbre*[3] in the upmost line. Nevertheless, the dynamic of the middle line is not perceived as such but rather as a feature of the cell. This happens because, in addition to the rhythmic uneventfulness of the line of tom-toms, *tamborzão* notes show similarities of facture, mass and duration, and the line of tom-toms is all the more prone to fade into the background since it is sited in the middle (and closer to the external lines than snare drum is close to bass drum or to hi-hat in the volt-mix). On the other hand, differences between slap high conga and open low conga tie together characteristics of site, duration and harmonic timbre in such a way that the listener is likely to ascribe this interplay of variations to a performer's repertoire of articulations.

8.2 Macro-objects

Both loops may be designated as *pedals*[4] of *cells*[5], or P_K (Schaeffer, 1966: 459), each K corresponding to one cycle of the loop. To establish a distinction between a volt-mix K and a *tamborzão* K we shall resort to two other types: *threads* (T) and *accumulations* (A). Threads are "complex or harmonic[6] packets of elementary N or X objects tied in a bundle" (Schaeffer, 1966: 459) or "slowly evolving fusions of sounds" (Schaeffer, 1966: 450). An accumulation is a "profuse reiteration of brief elements, all relatively similar" (Schaeffer, 1966: 439). By assimilating the volt-mix K to a T and the *tamborzão* K to an A we are implying that each of these pedals may be taken as a P_T or a P_A respectively. Since both loops consist exclusively of notes X, a volt-mix K would be a T_X and a *tamborzão* K would be an A_X.

8.3 Identity

The volt-mix cell distributes each of its three attack/resonance classes among three lines spaciously sited across the field of pitches, from lower low to upper high, while a line of impulsions spans the medium from end to end, thus basting both extremes. The *tamborzão* cell distributes each of its three attack/resonance classes among three lines compacted between lower low and upper medium, above which the attack transients of all notes take up the field of pitches. Were the ear capable of isolating this zone we should discern in there the disembodied synthesis of the rhythmic pattern through an ensemble of unresonated attacks.

The volt-mix delineates its rhythmic identity through the bass-drum/snare-drum pattern. It receives its name and signature from voltage oscillation, whether this line is perceived as a series of impulses or as integrated into an *allure*, or regular oscillation. This figure unfolds in time between the second snare and the first snare of the subsequent bar and it may be considered a hyperbole of the attack/resonance model. The *tamborzão* delineates its

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3 *Harmonic timbre* is a remainder, that which we may say about sonic matter after exhausting its description in terms of *mass, mass profile, melodic profile, grain* and *allure*.

4 "Type of artificial eccentric sound created by mechanical repetition in loop of a cell (hence, of a relatively complicated micro-object). The pedal is therefore a kind of prolonged and cyclic iterative sound (Chion, 1983: 136).

5 "An artificial object for which nature has not prepared us well, although electroacoustic equipment showers us with them: that object which is arbitrarily determined by locking a groove onto itself or by random cutting of a piece of magnetic tape (Schaeffer, 1966: 454).

6 *Harmonic masses* are those of sounds with definite pitch.

rhythmic identity by means of the ambo-kick/tom-toms pattern, approximately in the same region as the bass-drum/snare-drum pattern of the volt-mix. Its signature feature is the line of congas, not least because it is the only clearly discernable one.

An isolated volt-mix line is likely to evoke its original pattern; an isolated *tamborzão* line will not do so. The "paradox" of the *tamborzão* is that it uses samples of an Afro-Pan-American ensemble to suggest the Afro-Brazilianness of *candomblé* drumming.

8.4 Rhythmic derivation

The *tamborzão* kick drum duplicates all but the second bass drum of the volt-mix, which it replaces with its first slap high conga. The second slap high conga of the *tamborzão* turns up in the place where the third bass drum of the volt-mix would be (i.e. where the second kick drum of the *tamborzão* actually is). The two open low congas of the *tamborzão* fulfil a double role: the first one takes the place of the second snare drum of the volt-mix; their ensemble replaces, with augmentation, the anacrusis of voltage oscillation. The second tom-tom of the *tamborzão* appears where the first snare drum of the volt-mix would be.

9   Ontology

The volt-mix is either the beatapella mix of DJ Battery Brain's single or a loop extracted therefrom in the role of beat for *melôs*, montages and raps. We remain uncertain about the authorship of the *tamborzão*: individual, according to some; collective, according to others; individual with collective contributions, according to others yet. DJ Cabide states:

> Then I did that montage, "A Gota", it came out and sound systems immediately started to copy it. I said: "no, the *tambor*[7] [drum] is the West Rio *tambor* that Luciano has created". I used it. People began to ask me: "where is that *tamborzão* from?" "That *tamborzão* is the West Rio *tamborzão* made by Luciano". It was the beginning of funk. Everybody started to copy it, to put it into the music, and the evolution began to evolve, to evolve, to evolve until we got to the present-day *tamborzão*. (Caceres et al., 2014: 189)

Is the *tamborzão* a specific loop or a variety of loops characterizing "the evolution of evolution"? If the latter is correct, as Cabide seems to suggest, at what point does an *atabaque* become a *tamborzão*? And at what point does a *tamborzão* turn into a *tambor*[8]? Gilbert Simondon states in *Du mode d'existence des objets techniques*:

> Instead of starting from the individuality of the technical object or even from its specificity, which is rather unstable, so as to try to define the laws of its genesis within the framework of that individuality and that specificity, we would do better to reverse the problem. It is starting from the criteria of its genesis that we may define the individuality and specificity of the technical object. The individual technical object is not such and such a thing, something given *hic et nunc*, but something that has a genesis. The unity of the technical object, its individuality and specificity are the characters of consistency and convergence of its genesis. The genesis of the technical object is part of its being. The technical object is that which is not anterior to its becoming but which is

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7 Cabide uses the term *tambor* as a designation for the *tambozão* before it was named as such.

8 I use the term *tambor* for an undefined group of *tamborzão*-derived beats that emerged from around 2007 onwards, out of which the beatbox developed.

present at each stage of this becoming; the technical object is a unit of becoming. The petrol engine is not this or that engine given in time and space, but rather the fact that there is a sequence, a continuity that extends from the first engines to those we know, which are still in evolution. On this account, just as in the case of phylogenetic sequences, any particular stage of evolution contains within itself structures and dynamic systems that are at the basis of any evolution of forms. The technical being evolves by convergence and by adaptation to itself; it is unified from within according to a principle of internal resonance. The automobile engine of the present day is not a descendant of the 1910 engine simply because the 1910 engine was the one which our ancestors built. Nor is it a descendent of the latter because of greater improvement in relation to use. Indeed, for certain uses a 1910 engine is superior to a 1956 engine. For example, it can withstand a high degree of heating without seizing or leaking, because it is constructed with a considerably greater degree of looseness and without fragile alloys such as white metal; it is also more autonomous, because of its magneto ignition. Old engines still function on fishing boats without breaking down after being taken over from worn-out cars. It is through an internal examination of the regimes of causality, and of forms in as much as such forms are adapted to those regimes of causality that the present-day car-engine is defined as posterior to the 1910 engine. In a modern engine, each critical piece is so connected with the rest by reciprocal exchanges of energy that it cannot be other than it is. The shape of cylinder, the shape and size of the valves and the shape of the piston are all part of a same system in which a multitude of reciprocal causalities exist. […] It could be said that the modern engine is a concrete one whereas the old engine was abstract. In the old engine each element comes into play at a certain moment in the cycle and then it is supposed to have no effect on the other elements; the different parts of the engine are like individuals who would work each in his turn without ever knowing one another. (Simondon, 1958: 19–21)

Simondon designates this process with the term *concrétude*, translatable as *concretization* or *concrescence*. We only need to replace the words *piece* and *element* with *line* to understand concretization at work in the beat. The line of tom-toms, the simplest and the less discernable one, takes on a triple function: to keep up the pulse, as the hi-hat does in the volt-mix; to amalgamate external lines, as voltage oscillation does in the volt-mix; to provide the beat with a dynamic profile, which the volt-mix lacks. The line of congas takes up the anacrustic function and the signature function of voltage oscillation.

10   Geopolitics and human geography

The history of *funk carioca*, however young, is rife with myths. Has it actually consisted in one exodus after the other? Doubtless, there were funk dances in the favelas during the 1990s;[9] there were funk dances in suburban and peripheral clubs in the following decade;[10] and there have been funk dances in favelas *and* in suburban and peripheral clubs in the 2010s. Still, between the second half of the 1990s and the earlier half of the subsequent decade the epicentre of funk dances moves away from clubs in the *asfalto* and from samba school headquarters in *favelas* towards sports facilities, football pitches, streets and open spaces in favelas. DJ Byano (Harley Fabiano Fagundes dos Santos) led one of the main dances, Baile da Chatuba,[11] in its heyday, between 2005 and 2010. He reminisces today:[12]

> All of a sudden I start to miss the days when you had a whole menu of community[13] dances to enjoy on weekends. I was happy and I didn't know it. I've played in over thirty favelas and hills of Rio de Janeiro. I miss it. There were more hits, more MCs. Where are they? What's happened?

9 As the *proibidão* (forbidden funk) CD *Jacaré 1998: Bonde do Lambari* demonstrates; on the *proibidão* subgenre, see Sneed (2003) and Novaes (2016).
10 As demonstrated by the fact that I was able to frequent dances in the clubs Olimpo da Penha, in the borough of Penha, and Boqueirão do Passeio, in the city centre, between 2005 and 2008.
11 In the Penha Complex of favelas, in North Rio, above Serra da Misericórdia (Misericódia hill chain).
12 Facebook post of 2 May 2016, retrieved from http://goo.gl/2BAmTU (link now dead).
13 The terms *favela* and *community* denote essentially the same, with a complex set of connotations.

Apart from those in Chatuba, where I live, my favourite dances were Mangueira,[14] Jacaré,[15] Caratê and 15th Street in Cidade de Deus,[16] Mangueirinha, Corte 8, Dick[17] and Furk Mendes.[18] These were the favelas where I loved to work. You could choose: "I'm going to Nova Holanda[19] today: Shall I go to Mangueira or to Jacaré tomorrow? Shall I ring my bro in Rocinha[20] to go to São Carlos[21]? Or shall I lead my train to Chatuba or Vidigal[22]? Or should I ring up that babe who lives in Grota to enjoy their Saturday dance before I go to Fazendinha[23] or Arará[24] on Sunday? Is the Chapadão[25] dance taking off?" Time passes, things change. The majority of these people are now married. They have their kids and family. Others have travelled and no longer live in Rio. The government has face-lifted some communities and has oppressed culture in the favelas of Rio by requiring so many documents that a lot of people do not even know from where to start. In reality what keeps funk going now are *chopadas*[26] and miserable *pago-funks*[27] where playboys become DJs and the cultureless play at 140 BPM for little parties in favela outskirts. That auntie who used to sell drinks in a tent has sold her trailer. The small bar has closed down. That grandpa who used to rent his *laje*[28] as a *camarote*[29] has sold his home. That auntie's hairdresser shop that used to be crowded from Friday to Sunday no longer exists. The community earns no extra money. That uncle who would arrive from work and set up his bar for the weekend dance… But where is it? Though luck: ten years ago you were happy without even knowing it. I've lived all that, I've enjoyed it and I've spread happiness. I would go by kombi[30] or by bus, and happy I was! If one day my kids ask me what the best job in my life was I shall reply: to have done the best dance of the Rio de Janeiro state, and to have brought happiness to the best favelas of Rio. Today? I don't know. I only hear gunshots.

In a 2011 interview DJ Grandmaster Raphael (Angelo Antônio Raphael) contrasts the mores of 1990s dances with those of the decade that Byano so misses.

In those days there was a somewhat more conscious talk: writing lyrics such as "do not fight in the dances", "say no to violence", all that. MCs used to sing these lyrics. By contrast, fights erupted all the time in the dances. Unfortunately today you have this *putaria*[31] thing in most of the dances. Some DJs even find it dandy: "I am the King of *Putaria*". The discourse isn't right; the text is no good. By contrast, the dances are completely peaceful. You can see that the girls just want to swing their hips, people just want to make eyes at each other, to enjoy the party, to dance to the music, to drink, to have fun. What now? (Raphael, 2011)

The balance of the volt-mix participated in ritualized fights and in tributes to peace. The propulsive impetus of the *tamborzão* participated in mating rituals and in chants of war. In a 2006 dialogue with DJ Luciano, Cabide describes how the new beat was initially received.

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14 In North Rio, not far from the city centre.
15 A North Rio borough.
16 A West Rio borough.
17 Mangueirinha, Corte 8 and Dick (along the Sarapuí river) are located in the city of Duque de Caxias, in Baixada Flu-minense (Rio de Janeiro State Lowland), beyond North Rio.
18 Also, Furquim Mendes, in the North Rio borough of Jardim América, below the Pavuna river.
19 In the North Rio burough of Complexo da Maré.
20 A South Rio borough.
21 In the North Rio borough of Estácio, close to the city centre.
22 A South Rio borough.
23 Grota and Fazendinha are located in the North Rio borough of Complexo do Alemão, below the Misericórdia hill chain.
24 In the North Rio borough of Benfica.
25 In the North Rio borough of Costa Barros.
26 Draught-beer parties.
27 Dances in which a combination of romantic *pagode* (Lima, 2014) and *funk carioca* is played.
28 *Lajes* are rooftops of favela houses as places for entertainment and socialization.
29 The word *camarote* (usually, a seated compartment in a theatre) designates here approximately semicircular struc-tures above the ground floor that surround the internal walls of spaces where funk dances take place.
30 Volkswagen minibuses used as a means of informal collective transportation.
31 *Putaria* (literally whoredom) is a subgenre that tackles the sexual prowesses of men and women; see Gomes (2015).

You did that vignette, "Novos ritmos, novas galeras"[32] [new rhythms, new crews[33]]. Indeed, you did that *tamborzão*. The boss[34] heard it and said: "this drum… this is the real funk drum. Let's change funk!" […] The MCs themselves went: "Put that *tamborzão*, put that neurotic *tamborzão*, put the *tamborzão*!" — which we actually called *batuque*. It was the *batuque*, not the *tamborzão*. The MCs went on: "Put that neurotic *tamborzão*!" (Oliveira et al., 2006)

In her 2006 dissertation Carla Mattos studied *the neurotic* and *neurosis* as native categories amongst 1990s funksters who participated in fight dances.[35] She explains:

Conflict and "violence" had integrative power in the cohabitation of rival crews, but this manner of experiencing rivalry is modified in the context of factions, as observed in two situations. In the first one, we note that, in the "corridors", some young men — the "neurotic" ones — start to distinguish themselves in connection with cultural references from the faction, which idealized armed "war" against the enemy, or "*alemão*", imposing a new moral of the "manly subject", no longer valued for his physical power and disposition to fight. The second occurs in the context of "war" between factions in the favelas, a context called "neurotic rhythm" (Mattos, 2006), when a new ideal of "peaceful" and "leisurely" social cohabitation in the community and in the dances comes to bear differently on perceptions of risk/danger, on circulation strategies and on practices of identification and (self-)regulation of conducts vis-à-vis local violent criminality. (Mattos, 2012: 655)

[…]

The "pede a paz"[36] of the "*asfalto*" dances is re-signified in this context. In the favela, "peace" becomes synonymous with "leisure", and funk dances become the counter-neurotic time-space in which everybody may coexist in "tranquillity". The category "without neurosis" expresses the idealization of a non-conflicting social space where it is necessary to adopt a peaceful conduct called "*blindão*" [blindage]. The construction of this environment "without neurosis" requires: (*a*) regulation of the conducts of the "*valente*" [brave]; (*b*) elimination of the "*alemão*" from social coexistence; (*c*) the difficult negotiation of the "*arrego*", that is, the payment of bribes to police officers, in this case, to guarantee the realization of the illegal dances. (Mattos, 2012: 659)

If Charles's memory serves him well, the creation of *tamborzão* coincides with a mythical episode in the history of the crews.

A-Side and B-Side practically didn't exist any longer, because Lucas[37] was A-Side and Cidade Alta[38] was A-Side, but Cidade Alta was Comando Vermelho [Red Command] and Lucas was Terceiro Comando [Third Command], a rival faction. Then the neuroses of Cidade Alta were already starting: not to fight against Lucas, but against us from Nova Holanda[39]. This happened all the time in the dances. And we kept fighting. In fact, we didn't understand anything: I would be beaten by the kids from Lucas and people from Cidade Alta would see us being beaten and they

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32 Available from http://goo.gl/JwtSeY.

33 The term crews translates *galeras*: regroupments of *bondes* (trains), that is, of groups of people from specific communities or favelas, when they associate with other suchlike groups in the dances. Crews were divided into *Lado A* (A-side) and *Lado B* (B-side), each individual on either side being designated as *amigo* (friend), if they belonged to one's side, or *alemão* (enemy), if they belonged to the opposite side. The use of the term *alemão* (literally German) for *enemy* originates from Second World War movies, as seen on television.

34 Kokota, owner of the Gota sound system.

35 Rival crews engaged in recreational fights in *bailes de corredor* (corridor dances), or *bailes de briga* (fight dances). In these events, the space was divided in two sides (A-side and B-side), which would come face to face along two opposing lines of men sep-arated by a fight zone, or corridor, in the centre.

36 "Pede a paz" (asks for peace), that is, "the favela asks for peace", was an almost mandatory phrase in conscious   raps of the 1990s.

37 Parada de Lucas, a North Rio borough, below Vigário Geral.

38 Below Parada de Lucas, in the North Rio borough of Cordovil.

39 Controlled by Comando Vermelho.

would do nothing about it. They would come to the Nova Holanda dances and I would go to the Cidade Alta dances. And they would shake hands with me. I didn't understand anything: "Fuck, these kids are pure *alemão*, they're A-Side, they beat us and then they come up to shake hands!" That's when the traffic started to intervene in the fight dances. This influence dates from 1998 onwards. We no longer had the liberty to declare what we wanted to be. It had to be their choice, without freedom. And that's how it went until the end of corridor dances.

I remember that the guys from Nova Holanda went to Cidade Alta with people from Kelson,[40] which was Comando Vermelho and also B-Side and used to fight together with Nova Holanda and Parque União[41]. This crew went to Cidade Alta with a representative of the dances who actually represented Comando Vermelho. He said that if people from Cidade Alta ever fought against people from Nova Holanda again they would take bullets. The guys would send bullets on them as soon as they left the dance. That's when the separation happened, when the dances begun to die because bonds of friendship started to be severed, and this begun to bear on a lot of things. The neurosis started: "if I go there, shall I be picked up by the guys?" That was the beginning of neurosis: we could no longer frequent each other's areas and so our trajectory ended. I remember that at the time of the *arrastão*[42] it was A-Side and B-Side together, all the guys, everybody invading the beach. After that some beaches became more restricted, even more so than they already were. For instance, Arpoador,[43] in Posto 8,[44] became something mad due to these fights between factions in the dances, because when A-Side and B-Side didn't represent factions, but crews, everybody could frequent Posto 8. Vila do Pinheiro[45] frequented Posto 8. Ever since Comando Vermelho took charge of the dances, we started to evict people from Pinheiro, people from Lucas, and Posto 8 became Comando Vermelho only. (Mattos, 2012: 669–670)

In an unpublished manuscript, Marcelo Gularte presents another version of this story:

— A geezer from the Lowland told me that the corridor started to take shape in 1992 in the Grêmio de Raiz da Serra,[46] since not many people used to go there yet. That was with the Super Tropicália sound system. The dances were divided into crews of group A and crews of group B. Zezinho[47] created this thing and he put security staff to intervene in the fights. — Milico said.

— That may be true, but this division also existed in 1992 in the Furacão[48] dances, apart from the fact that it was not called A-Side and B-side, but "friend" and "*alemão*". I've participated in the beginning of the corridor in the Império[49]. Before that, there were the crowds. The guys would come in huge crowds, meet face to face and put up a fight. — I said. (Gularte, 2014: 778)

[…]

— Naldinho said to us that he's been told about a meeting on that faction thing. The deal was between the leaders of the Nova Holanda, Parque União, Kelson and Cidade Alta crews with a "representative" of Comando Vermelho. It was a meeting to sort out the "Cidade Alta neurosis". B-Side will become Comando Vermelho now and A-Side will become Terceiro Comando. Sides will

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40 Also known as Conjunto Marcílio Dias, in the Maré Complex, North Rio.
41 Above Nova Holanda, in the North Rio borough of Complexo da Maré.
42 The *arrastão* was an episode widely exploited for political purposes in which crews of funksters invaded the Arpoador beach to fight between themselves; see Yúdice (1994) and Herschmann (1997).
43 The Arpoador rock separates the beaches of Copacabana and Ipanema.
44 Outside the Guanabara Bay, in South Rio, the open sea beaches of Copacabana, Ipanema and Leblon are divided into lifeguard areas, or *postos*, numbered from one to six in Copacabana and from seven to twelve in Ipanema and Leblon.
45 In the North Rio borough of Complexo da Maré.
46 Raiz da Serra is a borough of the city of Magé, in the Rio de Janeiro State Lowland.
47 Owner of the ZZ sound system.
48 Furacão 2000, one of the main sound systems.
49 Império Serrano, a traditional samba school in the North Rio borough of Madureira.

change. It will be damn confusion. This won't even exist anymore because of faction. (Gularte, 2014: 1039–1040)

Gularte contests Charles's narrative: "Parada de Lucas never was A-Side but always B-Side". He explains to Mattos:[50]

> Cidade Alta was A-side; Parada de Lucas was B-Side. These favelas are quite close to each other, separated by Avenida Brasil. Nova Holanda also was B-Side and very imposing in the Chaparral[51], in Bonsucesso, because they used to walk to the dances in huge crowds. Chaparral is a dance that started in 1995 or 1996 and finished in 1999, when the dances were interdicted.

From 2000 to 2010 approximately, the *tamborzão* brings neutralized neurosis into play at favela dances, whose time it regulates with the help of bullets, whether sampled[52] or real[53].

> I see beatbox and *tamborzão* as one and the same. It's a mixture because no one can define the *tamborzão*. It's a mixture of everything: it's got samba with *candomblé* with… It's a fairly complicated thing. And beatbox is the same. (Raphael and Palombini, 2014)

The becoming *tamborzão* pursues its course in the becoming beatbox, even if, for the favelas, only gunshots have remained.

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50 Comment of 14 December 2016 on a Facebook post, retrieved from http://goo.gl/rvRD5a.
51 One of the last clubs to host corridor dances, not far from Parque União, on the opposite side of Avenida Brasil.
52 See MC Sabrina, "Diretoria", by MC Primo, produced by DJ Júnior da Provi, probably in 2005, available from http://goo.gl/1O210u; and MC Tovi, "Não entra aqui a UPP", produced by DJ Diogo de Niterói in 2010, available from http://goo.gl/UFRFRx.
53 See MC Gil do Andaraí, "Ao vivo na Nova Holanda" (live at Nova Holanda), probably in 2005, available from http://goo.gl/US1oMH.

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7. New Resonances:
Sound in contemporary architectural thought

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Abstract. This paper offers an extended overview of the new and emerging technologies and concerns in architectural practice mentioned in related to sound, along with a discussion of various exemplars of design-research work in this area. In recent years, a number of developments in architecture have acted to breach the firewall between sonic and visual practices in relation to space. The work of RVTR, in particular, offers a suggestion about how these various emerging and evolving technologies can be assembled to create a new understanding of sound in space, and allows us to begin to construct a new practice-based theoretical understanding of the sonic|spatial relationships.

Keywords: Building intelligence, responsive architecture, parametric design, s o u n d   a n d   s p a c e , atmospheres

1   Introduction: Soundspheres

> If a culture's sensory order is central to how it makes itself socially and how its inhabitants see [sic] themselves individually, then understanding the multiple, contradictory, and changing nature of our auditory environment becomes a compelling concern.
>
> - Michael Bull (Bull, 2006).

As hearing beings, sound is fundamental to the experience of our lives. It is not precisely the case to say that we are immersed in sound, but rather that sound is always with us: our body, with our internal organs, our rushing circulation of fluids, our wheezing and creaking is itself the smallest Russian doll of soundspheres. Perhaps this is why Michel Serres, in writing on Epidaurus, links sound and health – or, rather, links silence with health, noise with disease (Serres, 2008). We shouldn't really say then that we are *in* a soundsphere, although it moves with us in our perception; rather, we are *of* the soundsphere, irreducibly present in its production. We shape the soundsphere in which we operate, explicitly through the formation of envelopes, or shells, or architectures, or implicitly through regulating our own perception. The soundsphere is already with us in the womb, a field of pulses and rumblings; as Brandon LaBelle puts it, "beginning with the primary sensation of being in the womb, audible experience is first and foremost a tactile energy" (LaBelle, 2010,135). For Peter Sloterdijk, this chaotic noise field is the primal soup of consciousness: among the first things a fetus must learn, he tells us, is to ignore the sounds of the mother's body, which would otherwise be unbearable (Sloterdijk, 2011). In forming our own identity, then, sound comes before vision: the fetus, blind, knows its existence long before encountering Lacan's mirror.

The acoustic project, the relationship between sound and space in the *soundsphere*, is mythic or even originary in many cultures. In the Judeo-Christian tradition, for example, it is the word of God that gives form to the world: sound precedes and creates space. Contemporary scientific mythos similarly connects, irreducibly, sound and space at the Big

Bang, the moment at which the original universal soundsphere comes into being. In the ancient world, soundspheres proliferated and begin to take on architectural form: the ancient Greek theatres, such as those at Miletus, Rhodes, Syracusa and Epidaurus demonstrate the importance of acoustic control and the ability of the interactions of form and matter in shaping aural space. Soundspheres are present at the origin of architectural theory, too: Vitruvius, famously, describes the use of sounding vessels, made of bronze, to tune the acoustic properties of performance spaces, while reminding us of the need for architects to understand the harmonic properties of music. The evolution of the soundsphere from medieval plainsong in highly reverberant cathedrals to elaborate counterpoint in the less lively churches of the German reformation has been pointed out by many authors (see, for example, Rasmussen, 1962), while Frances Yates has convincingly analyzed the Elizabethan theatre as a carefully constructed and controlled soundsphere, with the actor placed strategically at the acoustic focus of the space (Yates, 1969). Marin Mersenne's acoustic lenses, Athanasius Kircher's listening machines and Christopher Wren's Whispering Gallery in St. Paul's Cathedral all deliberately control, measure, analyze, understand, and make use of soundspheres. And indeed sound and space are always inextricable, the relationships inherent in the soundspheres always rich and complex, as Rob Stone has shown in his recent rich and personal account of aurality and architecture, *Auditions*, or as anyone who has ever sat in a room, just listening, will be able to confirm (Stone, 2015).

Despite the constant presence of the soundsphere, however, the reciprocal relationships between sound and space – or between their organized corollaries, music and architecture – are, at best, fraught. Possibly the clearest statement to this effect remains R. Murray Schafer's remark, almost half a century ago, that "architects have peanut butter in their ears" (Schafer, 1971). In the modern world, the acoustic project was largely demoted to the acoustic *problem*, dealt with by engineering specialists, with the aim of controlling, disciplining and eventually eliminating unwanted noise (Thompson, 19xx), or alternatively a quasi-mystical speculation linked loosely to questions of phenomenology and perception (Holl, Pallasmaa, & Pérez, 2006; Pallasmaa, 1996). In previous writing, dating back to 2006, I tabulated what I saw as the structural reasons for the fraught nature of what I called the *nexus*, the sound|space music|architecture relationship, and the following repeats and somewhat expands on that text (Ripley, 2007).

First, there can be no doubt that this fraught condition rests to a certain extent in the extreme differences in the nature of the materials on the two sides of the nexus. Buildings, of course, are generally large objects. They tend to be solid (notwithstanding the air architectures of Yves Klein and others) and heavy and more or less permanent, or at least of significantly lasting duration. And they are expensive, requiring the investment of significant resources. Sound, in most cases, has almost exactly opposite characteristics: it has no scale, it is immaterial and lightweight and transient, leaving few traces after its passing. And it can be remarkably inexpensive, requiring few if any resources (if one is willing to discount the apparatus of the music industry). Materially, sound and space are almost diametrically opposed. In the years since 2006 I have been thinking more about the divergent political positioning of the two materialities, considering the reactionary nature of architecture – its necessary ties to power resulting from the material properties above – in opposition to the common use of music by anti-hegemonic forces, from the biblical

struggle at Jericho to the *Marseillaise* to *The Revolution will not be Televised* and others (Heron, 1971).

From a slightly different vantage point, though, these distinctions can be seen to lead to a theoretical dead end, because they start from a foundational misunderstanding: that space and sound are ever able to be separated. I'm certainly not the first writer to point out this error, although I'm not sure I've seen it made in such a bald fashion, but I want to be clear in my position here: the idea that space and sound are different materialities is an artefact of human ideas of analysis, compartmentalization and categorization. The fraught nature of the nexus – indeed, the concept of the nexus itself – is not a concern that arises in nature, but a problem of our own human intellectual construction, reinforced by an institutionalized and ideologized set of practices and specializations. Part of the job of unpacking this apparatus would be to understand the history of the understanding of the word space, particularly but not only within the practice of architecture. While that project is clearly beyond the scope of this paper, we can here claim that part of the spatial conception of architecture has been – by necessity – to limit a discussion of space to those aspects of space which are available to the practices employed by architects in their efforts to construct space. This is tautological, but intentionally and correctly so: architectural space is limited by the techniques architects use to analyze, describe, model and construct space. In other words, architectural space is visual space because architects draw, not the other way around.

Of course, there are many examples from the past few decades of architectural projects engaging with sound and/or music as part of their conception. Leaving aside the countless concert halls and theatres, which have their own unique performative relationships to sound (at least in the performance halls themselves), there are a number of well-known architectural projects – built and unbuilt - that take some aspect of sound (or more commonly music) as a starting point. Possibly the best known examples are Steven Holl's Stretto House and Daniel Libeskind's Chamberworks drawings, but there are many others in this vein (Steven Holl Architects, 1989-91; Libeskind, 1983). We could include Matteo Melioli's beautiful images of the acoustic space of St. Mark's Cathedral in Venice (Melioli, 2007), Bennett Neiman's architectural drawings Bebop Spaces (Neiman, 2007), or even projects like Tomas Smierchalski's undergraduate thesis at Ryerson University a decade ago that applies patterns from jazz music to the design of a building (Smierchalski, 2007). Such projects all have one basic element in common: musical or sonic ideas need to be translated into visual form before being available to architecture. The ubiquity of this mode of operating can be gleaned from the title of what is still the best-known book on the relationships at the nexus, Elizabeth Martin's 1994 entry in the Pamphlet Architecture series, *Architecture as a Translation of Music* (Martin, 1994). While there has been some important work done in a direct application of sonic ideas and concepts to architecture without translation into visual means – the work of Bernhard Leitner comes to mind – such work has been slow to infect or inflect the practice of architecture, staying instead in the realm of either sound art or participatory political art practice. The firewall put in place by the nexus would seem to be inviolable.

2   New Concerns

Recently, however, there have been a number of developments in architectural thinking and practice that have challenged this status quo, and that are threatening to bring sound back as a valid architectural concern. While I would not go so far as to announce a sonic turn in architecture, there are a number of signs and a number of practices, including (for purposes of full disclosure) my own that are actively exploring a direct, untranslated relationship between sound and space in their work. These developments have roots that extend back into the mid-1990s and are in large part an offshoot of the digital turn in architecture. It should be no surprise that important early theorist-practitioners of the digital in architecture, such as Marcos Novak (1992), Michael Benedikt (1992) and Lars Spuybroek (NOX, 2002), provide important precedents for new ways of thinking about sound in space. Taken as a whole, these new considerations are based not in ontological considerations or in humanist, phenomenological or cultural concerns, although those are never far beneath the surface; rather, they have their basis in the development of new digitally-enabled practices that are altering the basis for architectural understanding. Furthermore, these new ideas are not so much humanist in their conception as they are interested in the development of systems of which humans are one component among others, in a post- or perhaps more accurately trans-human paradigm.

This revised paradigm for architecture calls into question the traditional characteristics of architecture discussed above in relation to the sound|space nexus, offering possibilities for an architecture that is explicitly understood as not heavy, permanent or stable, but rather lightweight, transient and changeable. The question of the cost of architecture – and its attendant relationship to structures of power, and particularly of market capitalism – is at least latent or implicit in much of this work, as a desire or goal, notwithstanding the resource and oversight implications of highly technical regimes of space-making (see for example Latour, 2006). This work, or at least aspects of it, also challenges the central position of drawing as a practice for architects, suggesting other paradigms for production that enable a de-privileging of the visual. In short, this work produces a gap or opening in the firewall between sound and space, enabling a more direct consideration of sound in the production and consideration of certain architectures, a consideration which has in turn been mobilized as a tool of expanding this still emerging discourse of liquidification.

While there is a broad range of emerging concepts and processes that engage this shift, in this paper I will discuss them under six generic headings: Intelligences, Responsives, Atmospherics, Simulations, Parametrics, and Fabrications.

2.1 Intelligences

If these six emerging technological nodes, I've chosen to start the discussion with intelligences because it seems to me that it is the broadest and most radically paradigm-shifting. At its most simple, this notion posits that a building knows who is inside it; straightforward applications would include lights that turn on automatically when one enters a room, or an airport door that automatically slides open when one approaches, or electric locks that only open for those who bear the right card or fob. Conceptually, though, as authors such as William Mitchell and Malcom McCullough have noted, the situation

becomes more radical: by implicating the presence of the human in the system of the building, both our concept of building and our concept of body are forcibly rethought (Mitchell, 2003; McCullough, 2004). We come to see human and building not so much as separate entities, but as components of a single complex network – along with a large number of other human and non-human actors and quasi-objects.

An early application of this notion of intelligence to spatialized sound can be seen in artist David Rokeby's *Very Nervous System* (Rokeby, 1986-90). In this work of spatialized sound art, movements in a space are recorded by a video camera. The resulting images are then translated into sound files which are played back into the room. The space becomes a charged field with an illusion of intelligence, a space in which every action has a consequence.

More recently, and within the gambit of architecture, the Stratus Project, by my research firm RVTR (led by my partners Geoffrey Thün and Kathy Velikov of the University of Michigan) posits a building system which is able to understand not only the presence and location of an occupant of the building, but even to monitor essential biometrics of the occupant with the aim of producing appropriate atmospheric micro-conditions (temperature, humidity, oxygen content and so on). While Stratus in 2009 posited an architectural system to accomplish this monitoring, today we know how simple this is to do via a wrist-strap that communicates with the building systems. And while Stratus did not explicitly deal with sound, the understanding of a buildings systems and its occupants as a single complex entity that it implies is a fundamental first step to understanding how a discourse around sound can be incorporated as just one more component of this thinking (Ripley, Thün, Velikov, 2012a, 2012b).

2.2 Responsives

The idea that buildings are stable and permanent entities has never of course been strictly true. Even traditional vernacular buildings have had component to allow them to respond to changes in user desire or the weather: doors, for example, or fireplaces, or curtains. In recent years however there has been significant interest in working with advanced technology to produce buildings and building systems that are able to respond automatically to their context(s). Responses can be simple, and even imperceptible to a human occupant of a building, such as the near-ubiquitous building automation systems. Other examples, such as Mark Goulthorpe's Hyposurface (www.hyposurface.com), first exhibited at the Venice Biennale (Goulthorpe, 2000), posit the ability of architectural components – in Gulthorpe's case a wall surface – to deform in a near-limitless fashion in response to external stimuli, such as being touched.

Since Gulthorpe's installation experimentation in this area has been extensive. A number of significant publications, such as Fox and Kemp's *Interactive Architecture*, have tried to map this work, while interactive and responsive installations using motion sensors, Arduinos and lights, sounds or movement are now commonplace in architecture schools worldwide and increasingly in contemporary buildings (Fox and Kemp, 2009). Responsives clearly open a crack in our sound|space nexus firewall by suggesting that buildings could

alter their form in real time in response either to the presence of sound or the desire for specific and alterable acoustic conditions.

The application of responsives to sound and acoustic concerns has a relatively long history in the form of acoustically modifiable performance spaces such as the Musiekgebouw in Amsterdam, the Sonic Arts Research Centre at Queen's University in Belfast, EMPAC at Rensselaer Institute of Technology and many others. In the world of architecture – in opposition here to that of acoustic engineering – we could point to the variable Acoustical Domes installed by David Serero in the Academie Française in Rome, or Mani Mani's Tunable Sound Cloud (Serero Architectes Urbanistes, 2005; Fshtnk and Mani, 2008). Such projects seek to not only affect the acoustic environment of a space, but also to make that environment visible – to produce a tangible architectural sonic presence.

2.3 Atmospherics

ver the same period, we have seen a strong growing interest in the invisible components of architecture, most notably temperature and air quality but also – as I will discuss shortly – sound. An interest in atmospheres can be pragmatic at its roots, with the intent of revisiting modernist thinking about environmental (ie, air) quality in order to improve human comfort; key to this work is the writing of Michelle Addington or the built projects of leading-edge engineers such as Transsolar (Addington, 2007). It is also however a fundamental question that cuts to the heart of architectural practice, for the simple reason that one cannot draw the invisible; a discourse about the air therefore moves architectural thinking away from an implicit connection to the traditional arts of painting and drawing. It also, of course, disengages architecture from a discourse around heaviness, stability, permanence.

We can see this shift in important projects – primarily theoretical or conceptual in nature – such as Transsolar's Cloudscapes, for example, from the 2010 Venice Biennale, which installed, through meticulous engineering, a cloud within one of the large rooms in the Arsenale, inviting visitors to walk up a spiral ramp into the cloud, posing specific if implicit questions about the nature of our inhabitation in the air (Transsolar, 2010). French architect Phllippe Rahm, on the other hand, has produced a number of speculative designs for houses, which make use of thermal gradients as the primary organizing principle, arranging programmatic functions in relation to a pre-existing thermal field, inverting the traditional relationships between function and environment (Rahm, 2009). In short, buildings are no longer piles of rock, but rather – as Henri Lefebvre pointed out as early as 1968 – systems of flows. As Peter Sloterdijk has raised the issue, "with the transition from the 20th century to the 21st, the subject of the cultural sciences thus becomes: making the air conditions explicit" (Sloterdijk, 2009). Like the work on responsive and interactive architectures, the work on atmospheric design has developed its own body of literature – most notably, perhaps, Sean Lally's *The Air from Other Planets*, which refocuses architectural thinking on the multiple forms of energy that define our environments (Lally, 2014).

While the interest in the sonic environment in architecture can be traced back to Le Corbusier's Philips Pavilion, and arguably before, arguably the best known example in

recent years is still 2002's Son-o-house, by NOX, headed by Lars Spuybroek, with composer Edwin van der Heide, in which the sonic environment would alter depending on movement of people inside the structure (NOX, Spuybroek, and van der Heide, 2002). Meanwhile, this concern may have taken a more cinematic turn, as sound designer Florian Richter and his company, Sound Designs for Architecture (http://www.sounddesignforarchitecture.com/), are now designing sonic environments for contemporary works of architecture.

2.4 Simulations

Understandably, the three concerns already discussed can be understood to have precipitated a small crisis within a world of architecture based in the practice of drawing. To put matters succinctly, one can't draw, in a direct sense, that which is invisible. One can't draw, directly, movement or flows. One can't draw, directly, intelligence. And one can't draw, directly, sound.

Architectural theory has had for the past two decades an ongoing interest in resolving this question through the development of methods of engaging with the invisible aspects of architecture. One of the earliest and most influential pieces of writing in this concern dealt explicitly with the problem of depicting music, hoping to glean from musical practice techniques that could help architecture in its new world (Allen, 2000). As a result, a number of new graphic analysis practices, of which the most important has been the diagram, have been incorporated into mainstream architectural practice, and popularized by the work of such architects as Rem Koolhaas (Zaera-Polo, 2009). In their 2006 book, *Sonic Experience: A Guide to Everyday Sounds*, Jean-François Augoyard and Henri Torgue develop a method for notating environmental sounds in urban spaces (Augoyard et al., 2006).

An alternative and arguably more synthetic approach to resolving the problem of working with invisible flows is the simulation, in which (typically) the atmospheric conditions of a proposed space are calculated by computer, using a sufficiently detailed computer model of the building and of the external environment; the resulting conditions are then typically translated into a visual coding that can be understood by an architect or engineer. While the most common application for simulations has been analyzing flows of heat and air (for which use it is now commonplace in architectural practice), sophisticated simulation packages for sound have existed for more than a decade. Arup's Soundlab has been making extensive use of aural simulation – either through translation into visual coding or through direct auralization of the acoustic qualities of a proposed space – for at least as long, as have been most other acoustic design specialists working on performance spaces. While we are not there yet, we can imagine a not too distant future in which architects will be able to hear their buildings – and not just opera houses, but ordinary houses too - as they design them.

2.5 Parametrics

Another architectural production tool that moves architecture away from the visual paradigm per se, away from a traditional understanding of drawing, is parametric design.

This tool arises from the recognition that any digital design operation is at root a database – a set of parameters that represent, say, lines, areas, volumes, but that can be made available to be directly edited without the graphic interface. In a more sophisticated fashion, the architect can develop a design in which one or more components of the design are entered as parameters that the computer will later vary. This is easiest to understand perhaps in clothing design, where the measurements of a human body can be input as parameters, allowing custom-sized clothing to be designed to a base model by the machine. Parametric design has its own literature, just like the other nodes I'm mentioning in this paper, and is currently best known to the public in the sinuous designs of Zaha Hadid Architects and in the polemic writings of ZHA's Director, Patrik Schumacher.

While for some designers parametrics are a means to develop more interesting formal solutions to an architectural problem, for others the move to parametric design produces a paradigm shift away from the pictorial and towards a design based on performance (Sheldon, 2009). After all, the parameters can be anything, if one is clever enough to understand their implications: solar energy levels on a façade; movement of people over the course of a day; or sound levels at particular frequencies. Parametric design provides a doorway by which sound can enter into architectural thinking.

This doorway has been entered by a number of researchers interested in the relationships between sound and geometry. For example, the important workshop-conference Smart Geometries included sessions on Parametric Acoustic Surfaces in its 2010 event in Barcelona, and on Reactive Acoustic Environments for its 2012 event at Rensselaer (Peters and Peters, 2013) . Prominent at the 2010 instance was Brady Peters, then a PhD student at the Royal Danish Academy of Fine Arts. Between 2008 and 2011, Peters completed a series of installation projects that addressed the connection between parametrics and acoustics, most notable the 2011 Project Distortion II (Peters, 2011).

2.6 Fabrications

Finally, in this brief journey from high concept to physical making, we come to what I am calling here fabrications, but are probably better thought of as advanced manufacturing technologies: roughly, laser cutting, robots and milling machines, 3-d printing and scanning. These tools are generally well known at this point in time so I will not discuss their development or cite important examples. I am listing them here primarily because without this set of tools, the material complexity and precision required by the first five nodes would be excessively difficult to produce in built form. It would be difficult to imagine, for example, the work of Mani Mani, or David Serero, or Brady Peters being completed without access to such equipment; indeed the relationship between digital design and fabrication is often the starting point for the investigation. Perhaps even more importantly, fabrication technologies have again altered the paradigm of how designers understand their process and how they understand material. A contemporary understanding of material would see it as a product of a complex set of procedures that includes within its formal characteristics the machinic intelligence of the design process. Further, it would understand the material inside a space as having precise relationships with the other components, physical and not, that have been included as design parameters. It is no

surprise to me, then, to see the rise of academic program in schools of architecture that seek to investigate the interwoven nature of materiality and the digital.

The installations discussed to this point in this paper all make use of subtractive processes for acoustic control. However, Foteini Setaki at the TU Delft has begun to produce very interesting mechanisms for acoustic control at particular frequencies using the additive process of 3-d printing. This work makes use of the conjunction between parametrics and high-precision printing technologies to produce new acoustic materialities (Setaki, 2012).

3   Resonant Chamber[1]

These six emerging or contemporary architectural concerns, taken as a whole, provide a framework for an opening of sound into architectural thinking and practice. Resonant Chamber, an RVTR project from 2012 and 2013, is one example of work that engages with all six areas, exploring the application of multi-functional material systems for a volumetrically variable acoustic space, paired with kinetic operation and digital control via environmental sensing. The project proposes to develop an architectural soundsphere that is able to adjust its spatial, material and electroacoustic properties in response to changing contexts, to dynamically alter the sound of a performance space during performance. The first prototype for Resonant Chamber was developed at the University of Michigan through a nonlinear design process – that is, a process that involves iteration and feedback among design modalities, including traditional design conceptualization and spatial configuration, computer rendering, simulation and testing, and material fabrication and manufacturing, all conceived of as experimental methods - that involved several cycles of simulation and prototyping, with the formal, spatial, material and manufacturing logics evaluated against performance simulations. Resonant Chamber has been well published in detail elsewhere, so only a brief description of the system will be made here (Thün, Velikov, Ripley, McGee and Sauvé, 2012; Thün, Velikov, McGee and Sauvé, 2012). To date the prototype has been installed for a three-week period as a gallery installation at the University of Michigan, but we have not yet conducted rigorous testing of the system.

Resonant Chamber begins with an understanding that the acoustic properties of a space are the result, in the end of two parameters: its geometric configuration and the material properties of its bounding surfaces. The project responds to this situation by utilizing a rigid origami structure containing both reflective and absorptive panels, as well as panels containing distributed mode loudspeakers. A tessellated pattern based on the work of Ron Resch, using equilateral triangles 18" (600cm) on each side, was chosen to allow ready deformability as well as a good balance between granularity and acoustic effectiveness; the origami patterns were developed using customized Grasshopper and Kangaroo scripts within Rhino, and tested using CATT acoustics software by ARUP acoustics in New York. After a number of material tests, bamboo plywood was selected for the rigid panels, partly in that it offered strong performance in the mid-range frequencies used for electroacoustic amplification, as well as being able to be milled to varying depths and patterns, while absorptive panels were developed using a Porous Expanded Polyethylene insert. In

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[1]The section discussing Resonant Chamber is a modified and reduced version of previously published text in: Ripley, C. (2015). Instrumental operations in the urban assemblage. *Journal of Sonic Studies 11 - Recomposing the City: New Directions in Urban Sound Art*. https://www.researchcatalogue.net/view/234594/234595.

addition to the reflective and absorptive panels, a third type was developed containing distributed mode loudspeaker exciters.

A regime of sensors and actuators allows the system to fold and unfold in real time, allowing for both passive (acoustic) and active (electroacoustic) variation of the acoustic properties of the space beneath. The introduction of electroacoustics provides for an augmented level of reverberation control as well as directional sound reinforcement. Electroacoustics also make possible an entirely different interactive interface from the spatial-material sound control approach of the physical system, opening up a variety of possible applications for interactive sound installations, immersive live performance spaces or acoustically enhanced learning facilities – or even, although this has not been explored in the first prototype – room scale noise cancellation. However, the potential long-term impact of the addition of electroacoustics into the system is even more profound and comes to the core of architectural and spatial thinking. Imagine, for example, Resonant Chamber installed in a restaurant, and modifying its configuration automatically, in real-time, in response to a loud table of laughing co-workers out for a drink, or in response to an intimate conversation between lovers at another table: we can all imagine such situations. But it could go further: imagine the system modifying the acoustic conditions in your office based on the time of day, or on your mood: how would the acoustic environment change when you need to concentrate on a piece of writing, or when you need to calm an agitated employee? By imbuing the hard technologies of a space, its boundary or envelope, with the ability to not only produce but also sense sound – and therefore with the ability to react in real-time to the sonic conditions inside the boundary – those hard infrastructures have the ability to become active participants in the sonic (and not just acoustic) life of the world. This is a fundamentally different spatial environment, a fundamentally different world, from the inert and static environments – the artificial caves – that we have been occupying to this point in our history, so fundamentally different that we are incapable of grasping its potential.

4 Conclusion: A Generalized Theory of Sonic Performance

At the 2009 *Architectones* conference at Arc-et-Senans, France, I stated that in order for the relationships between sound and space, music and architecture to move past a seeming stalemate or dead-end, caught in the endless loops of translation and new beginnings, it would be necessary to develop a theoretical groundwork for those relationships – a groundwork that at the time did not exist (Ripley, 2009). I believe that in light of the foregoing considerations around emergent architectural concerns, we are now ready to develop this theory. In the following brief points I will attempt to sketch, in the most basic and bare-bones terms, what that theory might look like. At the least, what follows can be read as a manifesto for work yet to be done.

A theory of sonic architecture will emphasize (material) performance over metaphor. Its goal will be the construction of soundspheres, rather than the translation of music into architecture or the sonic into the visual.

A theory of sonic architecture will be rooted in the techno-cultural discussions of ubiquitous computing, cyberspace, digital humanity. Cultural-historical or

phenomenological concerns will take a background position. This theory will be a post-humanist rather than a humanist discourse.

A theory of sonic architecture will understand space as a complex overlay of systems, including sound. The atmospheric qualities of space will be privileged over solids. Surfaces will be understood as active participants in the space, in direct communication with atmospheric conditions.

A theory of sonic architecture will prioritize the systemic over the visual. In this it will act to revise architectural practice away from its Renaissance core and towards an engagement with virtualization and the digital, systems design, material thinking, and fabricational intelligence.

In short, a performance-based theory of sonic architecture will be positioned as central to the contemporary evolution of architectural thought and practice, engaged with all the evolving aspects of architecture that are currently moving us beyond twentieth-century humanistic/organizational concepts of architecture. This is a strong statement of a high ambition, but one that is I believe within the grasp of researchers and practitioners working in the field, but it requires a stripping away of cultural preconceptions on both side of the nexus firewall, a willing to engage in the big questions of our time, and a willingness to listen to what both sound and spaces are telling us.

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8. YTPMVs - Viral Error Aesthetics and Chaos Informational from recycling YouTube memes as new form of Video Music

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Abstract: This article presents the cultural phenomenon YouTubePoopMusicVideo describing some techniques used by poopers community as audio distortion of use, databending, remixing and assembly of new narratives with radical manipulations of loops and overlapping audio and video layers.   Are carried out some conceptual approaches to spectromorphology, the aesthetics of the error and the appointment of possible references of poops. After presents a comparative analysis of poops seeking reveal idiomatic features of the style.   Finally are listed some strategies that go towards a language appropriation for audiovisual experimentation context with open source.

Keywords: Post-Digital ; Viral Error; Chaos Informational; Recycling Memes; YTPMV

1   Introduction

In an article that defines the "aesthetics of error" as a poetic resulting from domestic access to personal computers and other gadgets through their daily Malfunctions, Kim Cascone (2000) also coined the term **post digital** as a result of a dilettante access of computational techniques that decades before were possible only in expensive studios and research laboratories. The "post" digital emerged as a hangover, the end result of an intoxication with the specialized tool blot of large university laboratories and studios and domestic access to these same techniques.

The sickness caused by excessive consumption is regurgitated, as a disdain to the common practice of popular electronic music radio, fifteen years later, in the form of audiovisual artifacts, experimentally radical, with all its confusion or irritation derived from a puerile use and naif in a language full of excesses, today popularly known as **YouTube Poop Music Videos (YTPMV)**.

Some recent works, especially in the critical area of new media, have appeared to legitimize the practice as a generational characteristic mannerism already. The YouTube Poop can be described as a taste category (or *genre*), with a production process apparently defined.

One feature of this taste category is -- in the sense described by Simone de Sá as " [...] a set of specific social and material relationships" (SÁ, 2009, p.2)[1], or, in the sense described by Jeder Janotti Jr as a artistic performance, with " [...] formal rules and shared

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1I believe that this brief presentation already allow us to glimpse the importance of the study of these systems, that can be thought as a class of cultural artifacts (STERNE, 2004) that **a set of specific social and material relationships**, thus contributing to understand aspects of audio-digital culture. Our translation

ritualization by musicians and audiences" (JANOTTI, 2003, p.38)[2] -- the pratice of sharing tutorials that multiply their idiom and show the contingency induced by domestic tools for video editing.

These video editing tools are popular with the proliferation of production tools in web platforms like *Youtube*. In this sense, Alexandre Sampaio (2016) and Stijnie Thuijs (2011) describe YTPMV as:

> [...] a genre of different YouTube videos and development, in which the authors of the videos take ownership of material, preferably content in there speaks well articulated and that the actions and visual elements are simple and defined, and this material is remixed, adapted, distorted, repeated and edited until a video with humorous intention appears, have little or no relation to the intentions of the original product or context (THUIJS 2011, p.6 *apud* ARAÚJO, 2016) .

We can also cite the fact that almost most poopers be anonymous profiles preserving their identity. Probably because they want to avoid prosecution and have their accounts closed by infringement of copyright of audiovisual works excerpts. But also by the creative freedom, a well-defined brand style, which may appear public figures singing pornographic letters or involved in visual assemblies in positions and compromising movements. There is no censorship in the middle pooper which makes the creators always keep their identities confidential.

1.1 Case study

As a case study of what is set to YTPMV (see section 2), we suggest the analysis of two exemplary approaches (see section 3.1 and 3.2), in order to show one trend of spectro-morphological model and one trend of spectro-morphological motion, as well as foregrounding the question with a non-conclusive answer: how procedures of experimental electroacoustic music are presented in the popular imagination of a new generation of digital natives, something like the unfolding of Cascone's argument?

Through a consultation with the Google Trends tool, we have the clue that, since 2007 and 2008[3], YTPMVs are already pursued at countries like USA, Brazil, Italy and United Kingdom. The acronym YTPMV appears as entry in specialized sites in the (dis)construction of "memes" (DAVIDSON, 2012), as in the famous websites like "Know your meme"[4] or "Desciclopedia"[5].

Labaki (2015) presents some clues of these YTPMV's morphological models and motions, from a cultural perspective of taste categories:

2Thus, performance defines a process of production of meaning and consequently of communication, which presupposes **formal rules and ritualizations shared by musicians and audience**, directing certain experiences in front of the different musical genres of contemporary culture. Our translation

3Available at https://www.google.com/trends/explore?date=all_2008&gprop=youtube&q=YouTubePoop,YTPMV,JOOJ,Seu%20madruga%20will%20go%20on

4Available at http://knowyourmeme.com/memes/youtube-poop-music-videos-ytpmv

5Available at http://desciclopedia.org/wiki/YTPMV

[...] although many poops follow the line of any particular episode of any series, just by inserting new elements, modifying phrases, changing timelines, etc. - But it is also true that these "non-sense" operations end up repeating to exhaustion and being reworked by different users, so that a specific grammar poop soon ended up setting. Although many poops follow the line of any particular episode of any series, just by inserting new elements, modifying phrases, changing timelines, etc. - But it is also true that these "non-sense" operations end up repeating to exhaustion and being reworked by different users, so that a specific grammar poop soon ended up setting. If we cannot exactly predict what meme will be superimposed on the head of which character we know that something will happen at some point; if you do not know what speech or written word on the screen will be superimposed by a word (or, in the case of Brazilian poops, perhaps by Faustão shouting 'Olôco!' or the 'SouFoda') , we know that inevitably it will happen - and probably more than once. For these and others that the poop is a genre with all its set of conventions in each of its sub-divisions.

2 YouTubePoop

Our first description of a YTP (in general, YTPMVs are shorter versions of YTP made by *poopers*), audiovisual artifact created with Youtube as a creative platform (THUIJIS, 2009, p.5-14), put it prematurely as a mashup of collages that reinforce themselves, hypnotics puerile puns speeches, or catchphrases of characters mentioned to the delight of those who want to spend the day with something stuck in his head. But, oddly enough, these poopers works with sounds and techniques that dialogue with the techniques of electroacoustic music, considering the popularity of their videos: some reach the home of millions of viewers.

In a first listening, some poops are similar (but not equals to) to those works of musique concrète and glitch music. In section 3 we list a gesture lexicon. In section 3.1, we show one specific aspect, namely, the interruption experiments (CHION, 1983). In section 3.2 we investigate the glitch aspect, in the sense explained by Kim Cascone and with spectro-morphological point of view.

3 YTPMV gesture lexicon

From audiovisual bias, the YTPMV can be defined by a general process, with different demographic variations (ARAÚJO, 2016), whose premise is to mix videos with rough chroma key's inserts. Such mixes merge into layers of vertiginous way, smearing in self-referential collages (memes), which serve as motivic indices (weekly ephemeral fashions of the Internet), with the abuse of modulation characters speak in MIDI sequencing, torn and inspired by classic video games and nintendocore bands[6].

From the point of view of spectro-morphological motions, YTPMV is described with effort to isolate sounds of audiovisual complexes. This creates a dilemma that prevents a closer analysis of the sound out of audiovisual context.

6Available at https://www.youtube.com/watch?v=iCNfYjZ26ow

We recognized some usual gestures from the audiovisual language of memes that are often at poopers communities and extracted a basic lexicon for this style mimesis. Here we start with some ideas:

- Amplitude distortion: A omnipresent characteristic at all youtube poops is the use of extreme clipping and maximized distortion for audio amplitudes. Normally this distortion is hyper estimated with fast transitions to different levels of volume, what causes emphasis and unannounced bumps on the audition. The radical amplitude rising generates a gesture that is always applied to emphasize something.
- Loops: The loop abuse is a fundamental feature of this language. The more recurrent is the repetition of a small cut turning pitch at each iteration. Is also important the reutilization of some cuts in different timestretch appearances (something like the strettos of classical music).
- Silence: Is frequent the use of long silences as form of detach focus of narrative and to focus at some sonority or meme to come.
- MIDI vs Sampler: This technique appears at different manners, using small samples repeated in loop transposing defined by a MIDI file sequenced. This technique is very often at poops and similar to the music of phase vocoders technique of "autotuning" music. The timbre character is left untouched so the sonority resembles always the original source or works as something that makes a spoken word seems more like a singing part. A pretty known example is the project "Autotune the News"[7], which makes remixes and mashups from journalism and documentaries from recent news to make musical anecdotes.
- Reversing audio in several passages in combination with loops. It's recurring the gesture of go back and forth in speech excerpts, generating a search for palindromes and creating new words. Often the most latent palindromes excerpt is featured in the video with the word written in the caption of the video. Perhaps the best known passage of this technique is the term JOOJ[8], present in many poops.
- Musical creation with the sources. Usually made synchronizing a drum section with loops. Like EBN[9] in style, where new musical structures emerge from the source itself. The video sources serves as loop base. Usually made syncing drum beats with some patterns that emerges from video loops.
- Sinestesic elements:
    1. Transcription and subtitles from new words derived from loops and reversing parts.
    2. Abuse of image filters that are in sync with audio distortions.

We divided here the examples at two most recent categories - let's call it "**Self-referential memes & Videogame nostalgia**" (3.1) for those videos with a huge numbers of audience - from some of them with hundreds of miles spectators ("GoGo" - Guilhox, see Figure 1)[10] to millions of spectators (the hit "Seu Madruga Will Go on do Mestre 3224", see Figure 2)[11].

7Available at https://www.youtube.com/watch?v=5fngEnIkz44
8Available at https://www.youtube.com/watch?v=84p2ekzWIV0
9Available at https://www.youtube.com/user/EBNCONTROLSYSTEMS/videos
10Available at https://www.youtube.com/watch?v=8oCeU8P3zKw
11Available at https://www.youtube.com/watch?v=ettaeKZHAwA

We will compare similarities between those two videos, trying to split some kind of YTPMVs' subgenres.

The second category will be nominated "**Entropic meme chaos and self-destruction by overloaded information**". We will show that in this category, by escaping some enframing of rhythmic and melodic concepts tied to the note paradigm, the videos are better suited to be analysed by spectro-morphologic analysis. It is an experimental composing process that very often is given by a game of re-mixing excess. Curiously, when compared to the subgenre "**Self-referential memes & Videogame nostalgia"** we can think their formal peculiarities almost as symmetrical opposed, since in this first case we have a very clare melodic and rhythmic intention given by pitch modulation and synced loops manipulated from original memes remixed.

3.1 Self-referential memes & Videogame nostalgia:

This first case produces a music of high complexity timbre, but that is too tied to structures of modern popular music (mainly punk, post-punk, industrial and overall a 8-bit nostalgia reference to 80's and 90's videogames). Poopers works with loops, audio reversing, time-stretching, abrupted cuts, and MIDI controls. Those combinations are elaborated with a handcrafted process with non-linear popular video editors like Sony Vegas (LABAKI, 2015) and distorted with process of proposital video codec errors using Avidemux[12].

The videos "*Seu Madruga Will Go On"[13]* and *GolGol[14]* are used here as examples of a category of YTPMV - those based in manipulation of video scenes by rhythmic and melodic synchrony given by some MIDI music source from videogame nostalgia music. We can also identify what Michel Chion calls *interruption experiments* (CHION, 1983, p.13-14), what Miller Puckette calls *sampling and time stretching* (PUCKETTE, 2006,p.27-37).

Unlike interrupt experiments presented by Chion and Schaeffer, in this document as reduced listening labs, loops and its various manipulations are, in poops, bricolage laboratories for jokers and trolls.

The interruption experiment of poop video diverges from usual notion of cyclical repetition of a fragment. It repeats exhaustively some fragments until reach the tone of bullying the audience. In this sense, if we isolate the video from sound, most of compositional intention is lost. Which means that is very difficult to think separately video from sound, with this type of YTPMVs, in terms of that Michel Chion calls *synchresis* (CHION, 1994, p.68).

12Available at http://datamoshing.com/2016/06/26/how-to-datamosh-videos/
13Avaible at < https://www.youtube.com/watch?v=ettaeKZHAwA >
14Available at https://www.youtube.com/watch?v=8oCeU8P3zKw
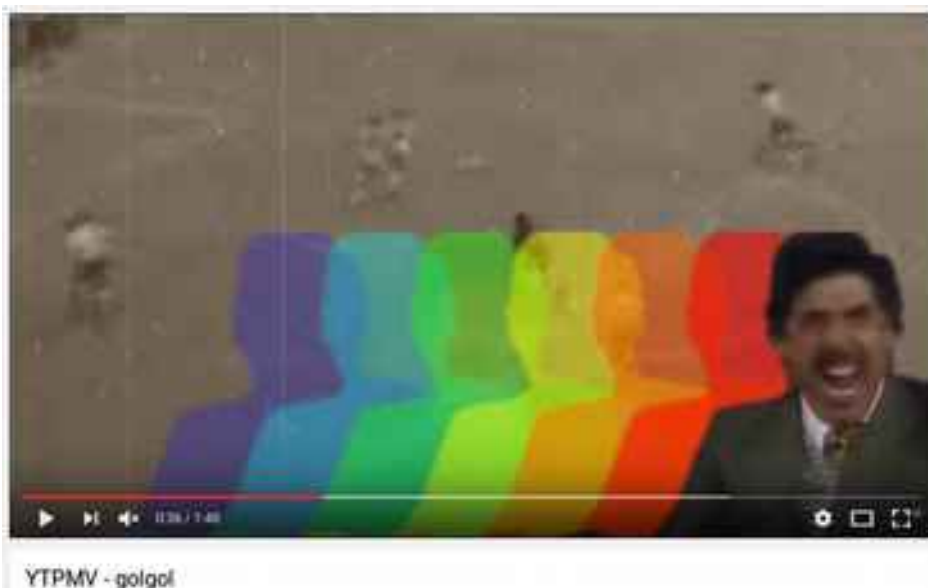
Figure 1: The "Golgol" made by Guilhox

Figure 2: The "Seu madruga Will Go On" made by Mestre 3224

3.2 Entropic meme chaos and self-destruction by overloaded information

The second case produces a more spectral oriented music, emerging from informational chaos which is very influenced by a perverted use of filtering excesses and procedures guided by error from distorted manipulation of data (glitch and databending), as normalization of noise aesthetics.

T h e   c o m p o s e r   o f   t h e   p o o p   t i t l e d "*]Ñiù#‡Æ‰Ö'Ï%y²¯B©×ˆãR.ó[[ÔR¹
¢'1¿ÊOí'Â8Ÿƒxä¥Óó*½*" [15] (see Figure 3) give us important information about his own point of view of his creative process of audio databending[16]. The way he talks about it, is that the process was almost random and dilettante, and that the video part was made with not too much criteria:

> [...] "I transformed a photoshop project in audio, then made a default databending in an old video and dropped some little stupid effects from Vegas, and that's the result. The audio was the interesting part, the video is more for illustrate it 'cause I don't know how to make a beautiful databend in it." (GUILHOX,2012)[17]

As he describes the databending of audio was made **by chance** when he opened a image format into an audio software. He explicitly says that video glitches are not part of the audio glitches sources, so we can better analyze the results without think that the video was compositional determinant as in other pieces shown here. Let's think a little about those results using some of SMALLEY(1986, 1997) spectro-morphological terminology. From model point of view, *]Ñiù#‡Æ‰Ö'Ï%y²¯B©×ˆãR.ó[[ÔR¹¢'1¿ÊOí'Â8Ÿƒxä¥Óó*½* – shows a type that has a "*closed atack followed by opened decay*" (SMALLEY,1986, p.69, see Figures 4 and 5)*.* This decay is maintained by short sound of defined pitch, segmented by periodic cuts, with impulse exposition, which is preceding by a continuum of oscillation/multidirectional of noises *(*SMALLEY, 1986, p.72-74). This continuum is characterized by glissandos with delimited frequencies in a variable frequency band, and that causes an excessive accumulation without dissipation of the sound material.

The similar case that we choose to compare, which also uses some degree of entropic chaos to reach noisy results, is a case which such chaos is not reached by chance but by a successive layers of remixing, until the results are so full of fragments that makes a new texture of sound.

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15 Avaiable at < https://www.youtube.com/watch?v=z8T-PacbA_g >

16 Similar to what is already known (HERTZ and PARIKKA,2012) as *circuit bending*, but with lousely manipulation of data.

17 **This video may not be enjoyable for all audiences. But look at all the fucks I give. I transformed a photoshop project in audio, then made a default databending in an old video and dropped some little stupid effects from Vegas, and that's the result. The audio was the interesting part, the video is more for illustrate it 'cause I don't know how to make a beautiful databend in it.** Our translation
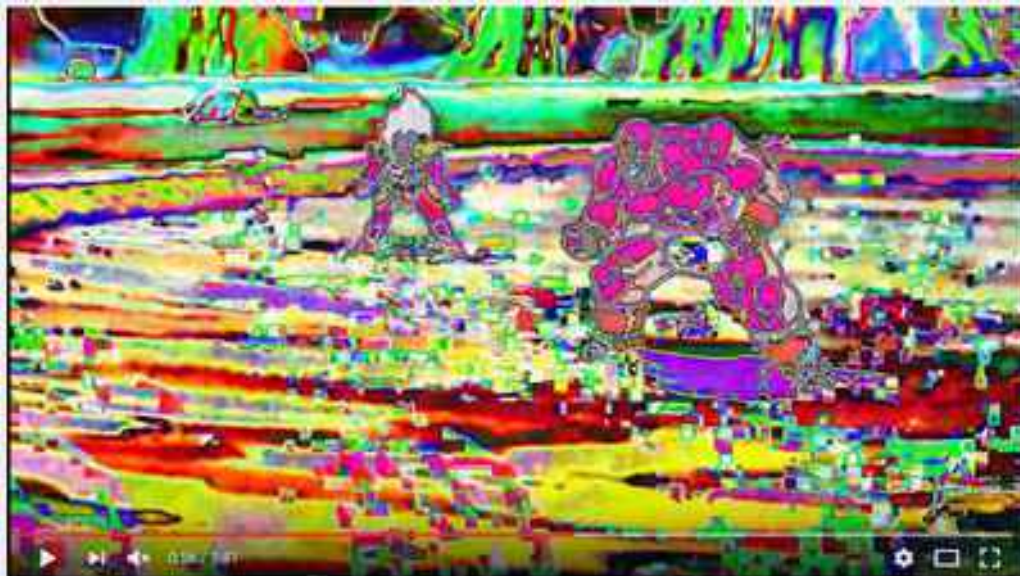
Figure 3:]Ñiù#‡Æ‰ÖÏ%y²¯B©×ˆãR.ó[[ÔR¹¢'1¿ÊOí'Â8Ÿƒxä¥Óó*½ made by Guilhox
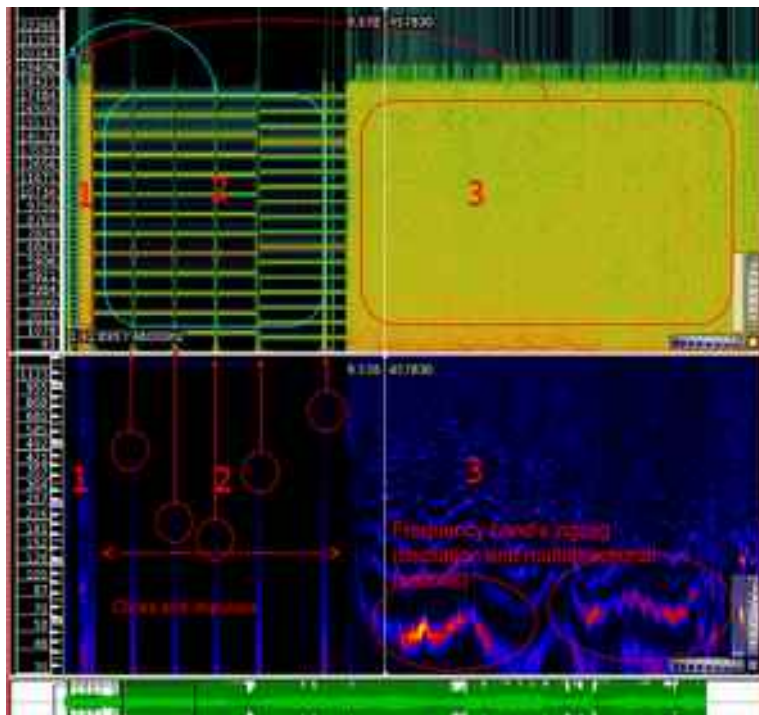
F i g u r e 4:   F i r s t   g e s t u r e   o f *]Ñiù#‡Æ‰ÖÏ%y²¯B©×ˆãR.ó[[ÔR¹ ¢'1¿ÊOí'Â8Ÿƒxä¥Óó*½*. The spectrogram (yellow and green colors, top) and a spectrogram of melodic context (blue and red, below), divided into three sections representing a morphological type of attack (1), a open "variable" decay (2) followed by a continuum of oscillation/multi directional noises (3). Section 1 consists of micro versions of sections two and three.
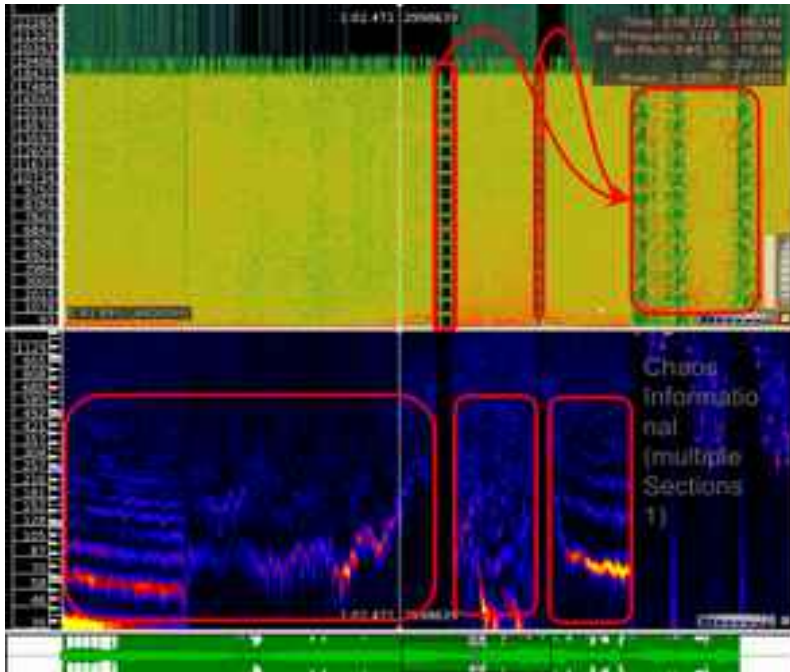
Figure 5: Multidirectional continuum and oscilations, glissandi and opened attack-decays segmented by similar slices in Figure 1.

This successive game of remixes is often call YTP "Tennis" (and sometimes similarly called "soccer" or "pingpong") - a game where the player will "destroy" the mix and pass it ahead to other players).

The similar examples are numerous, but we choose here the unpronounceable:*"9q234j34w90utrp4wer9578340jgip34763ir92jsd9f23jirjrigasrm;t8m8vio wv5uefjeripwb5u77k0970oil9hu7il9g7]u89huo[huu[98ki8p9[hio;89h&&SDFAU&wemiji8978 90h];j7979;%&3wfjsd*1223498jia&sdfsd88jklfa8"*[18].

Like the previous case, the title reinforces the idea that this sub-genre of poop is the result of boredom moments with the editing tool and expressed in the obsession with remixing, like a "ping pong "(the case we point here went through eight re-mixes) and reinvention of the use of these interfaces abundant at a time when home computing trivialized the video editing. Successive remixes result in extremely saturated sound masses, moving as clouds of small moments of noise stability. We will demonstrate, however, such structures still work with abrupt transitions or well marked by prominent transitions, so there is no a stage of gradual transition. This stage is one that Smalley called "continuous graduation" (Smalley, 1997, pg.113), but with a constant expectation of transitions between these sound masses (see Figure 7)

In figures 8 and 9 we see an example where the transition occurs more gradually, but still using a piece of mass of the granulating strategies. The exactly backside texture makes a motion to dissolve from the mass of repetitions in light glisses, re-tuning the previous passage in small envelopes, playing with similar sign vinyl scratch setbacks. At other times

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18Available at https://www.youtube.com/watch?v=xmrSInM3wcM&fmt=18

this transition occurs by successive repetitions at different times (*timestretching*) as in the Figure 5 section.

YouTube Poop Tennis:
9q234j34w90utrp4wer9578340jgip34763ir92jsd9f23jirjrigasrm;t8m8v
iowv5uefjeripwb5u77k0970oil9hu7il9g7]u89huo[huu[98ki8p9[hio;89h&
&SDFAU&wemiji897890h]j7979;%&3wfjsd*1223498jia&sdfsd88jklfa8

Figura 6: An example of YouPoopTennis

According Smalley (1997, pg.113) this expectation transitions, for dissolutions of blocks that can be heard with an attention-driven melodic and tonal speech, even when listening to sound blocks, may have the expectation of the arrival of a transition to a new session:

> What the archetypes and their variants demonstrate is that the note trains us in spectromorphological expectation. We have a very wide experience of the circumstances in which spectral changes occur, not just in single note-gestures but in the articulation of chains of note-gestures within the larger gestures of phrase-motion. Our acquired knowledge of the contexts of spectral change provides an almost 'natural' reference-base (...) Electroacoustic music, even when deprived of known instrumental spectromorphologies and tonal harmonic language, still relies on culturally acquired expectation patterns (SMALLEY, 1997, p.113)
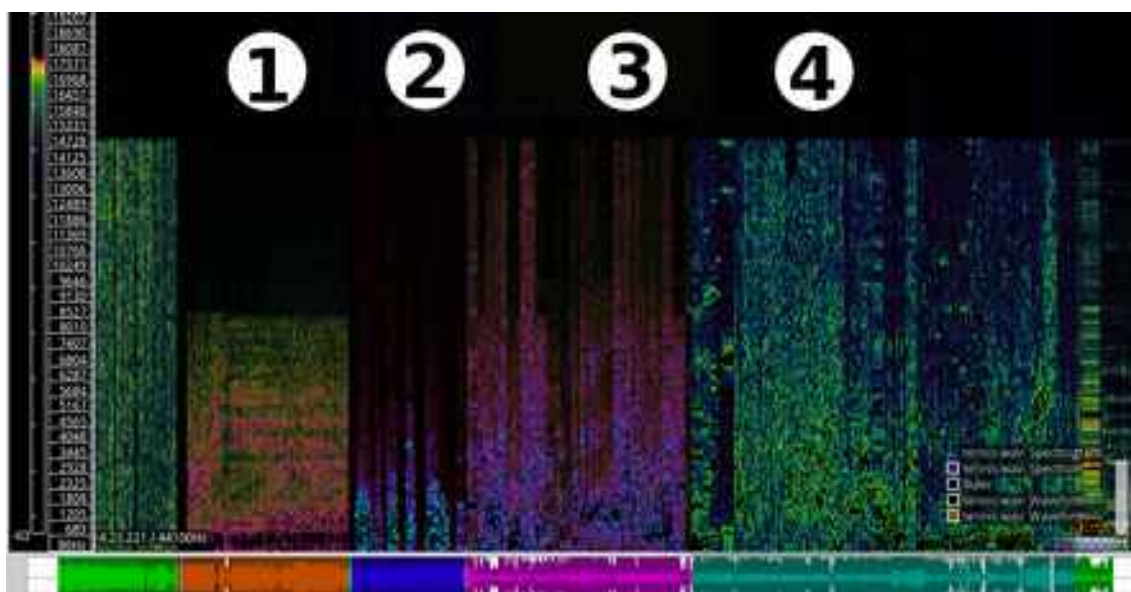
Figure 7: Spectrogram of YTPMV "9q234j34w90utrp…". As The transitions beetween sound masses are usually very abrupt and despite not having a well-defined rhythmic marking has a fairly symmetrical blocks division proportional between the blocks and based on a time count in seconds pairs (relies heavily on the sense of touch in pulse passage chronological time).
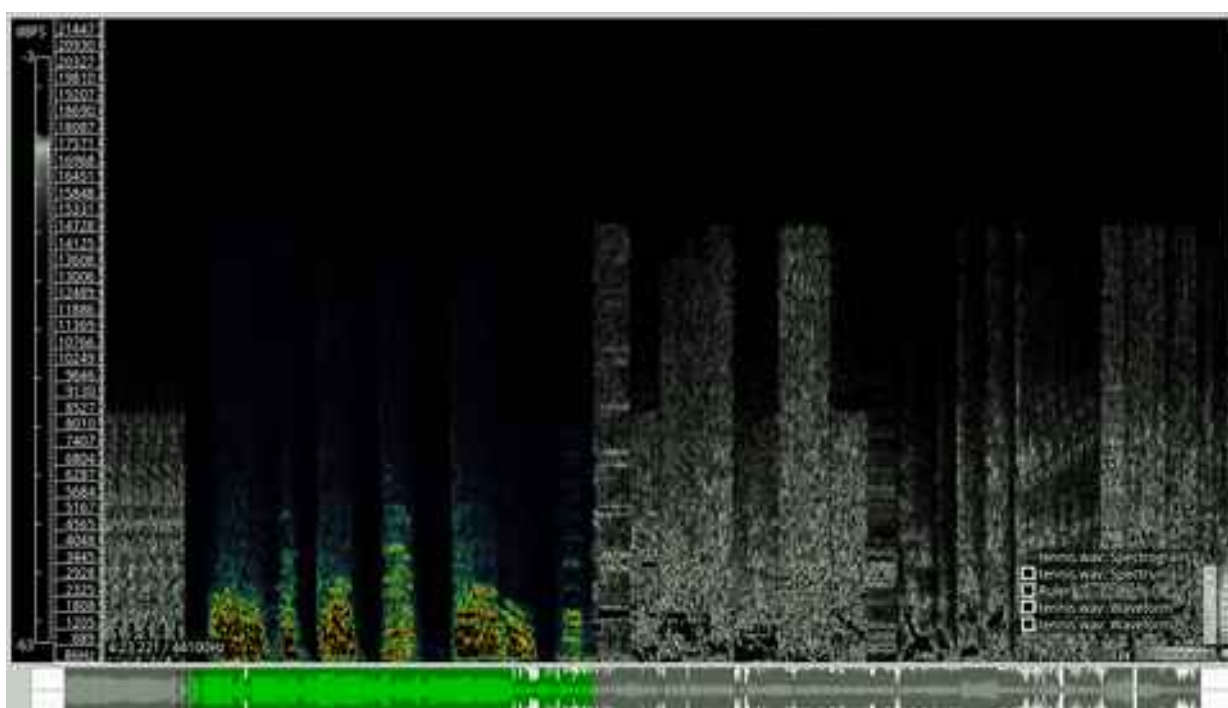
Figure 8: Transition through accelerated and rhythmical glissando dissolution of the previous section.
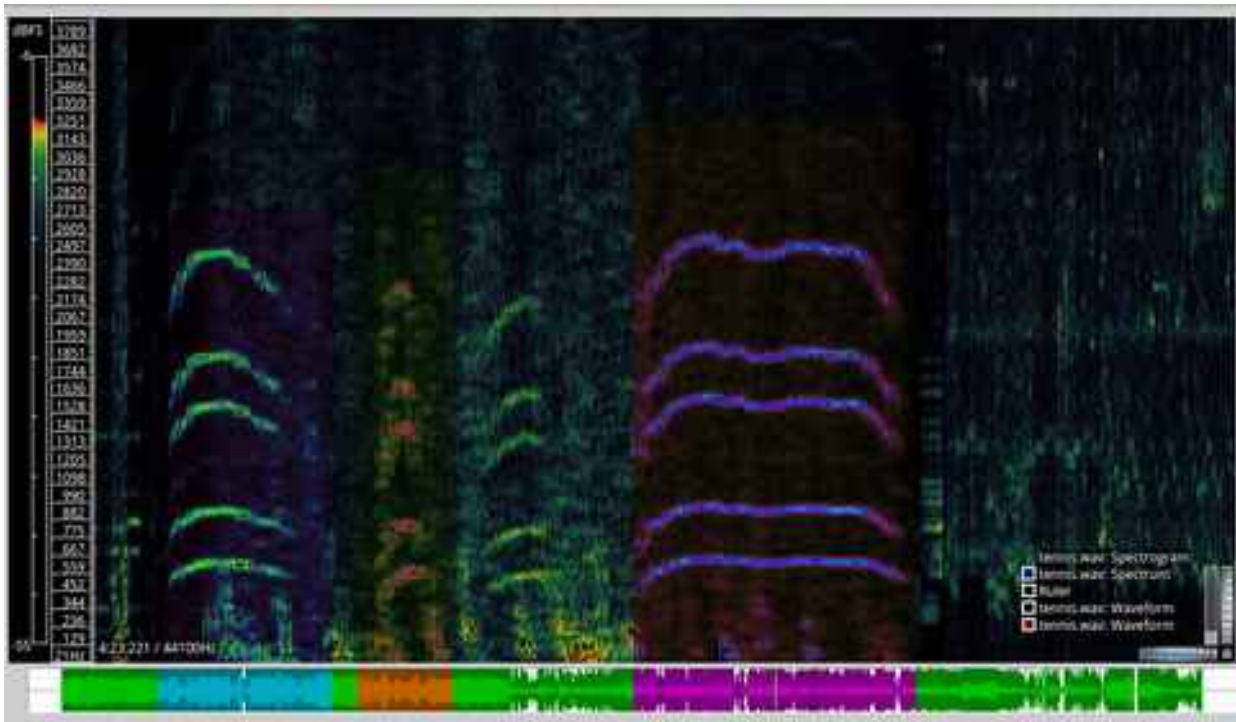
Figura 9: Transition detached by different accelerandos and rittardandos of timestreetching effect.

4. Conclusion

This article is the first attempt to approach and study of this language, that reveals itself as a kind of synthesis of recombinatory processes seen in electroacoustic music and video art radical strand. Despite being an international community, we perceive a high concentration of brazilians.

We can say that there are two extremes of YTPMV types - one based on the manipulation of video scenes by rhythmic-melodic synchrony from MIDI files and references to video games of the 80s and 90s, and another from databending and experimental techniques, where poppers are using manipulation techniques to subvert digital video formats.Several techniques and aspects of poops can be isolated and understood separately for ownership and a possible pedagogy of poops. Perhaps the atmosphere of creative freedom, and the community replication of other creative flows, research and educational handling of audiovisual objects.

Cascone emphasizes the idea that the proliferation of editing tools generates an aesthetic interface using perversion, considering a regulation of use by professional audio, which puts the price of compositional time in another sphere of production. In this sense the poops are characterized by being produced quickly, usually taking into account the time of effectiveness of the memes used. Besides having a radical collaboration, as in cycles YTP Ping Pong, Collabs and YTP Tennis, where these sources are remixed several times by different poopers, which ensures a desired lack the final result.

Some research initiatives in open source point to some mimetics of creation pooper style. We can quote "Navalha"[19] software, cut and recombination of multiple different sources of audio and video. Experimentations with the Processing language, Node.js and P5.js also point paths towards a catalog of techniques in free software for audiovisual creation. Some sites have a very basic tool for creating remixes directly based on streaming provided by youtube, called Youtube Doubler. Some controls are offered the choice of which and how many videos will compose the mixing and the start time and volume of each video.

Research in databending and datamosh point to the use of BASH scripts to induce entry error and output the read files of video codecs, as well as interpolation and pixel rearrangement. This relationship of aesthetic glitch with YTPMV we can point out that the main difference is always being that YTPMV has a "naive" naif that legitimizes as a phenomenon almost "popular" (something like a nerd version of precariousness "ghettotech"). Most YTPMV uses autotune the technique derived from a MIDI file, but not all, some authors have a more radical and self-destructive streak that flirts with noise by a kind of attitude of "detachment" to the virtuoso pooper objectivism which aims achieve the complexity of an "Seu Madruga will go on."

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19Available at https://github.com/glerm/navalha

9. Ubiquitous Public Voices in the Soundscape of Arcoverde, Pernambuco

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Abstract. This work traces three extraordinary voices projected throughout Arcoverde, Pernambuco, a small city in the interior of northeastern Brazil. It is an account of acousmêtres, or disembodied voices, that are heard while the visual presence of their bodies remains obscured. In this paper, I engage with film scholar Michel Chion's theorization of the acousmêtre, applying it beyond film into an ethnographic setting. Based on a decade of in-depth ethnography in the region, and engaging with sound studies and studies of vocality, I examine the contrasting sonorities and means of technological projection of the voices of Lima, Lira and João. Lima is a death notice announcer inspired by Charleton Heston's cinematic voice of God who drives through the city in a loudspeaker truck; João da Informação is a man celebrated for memorizing the city's telephone numbers; and Lira is a iconoclastic singer who represents Arcoverde throughout Brazil. Chion describes the acousmatic voice as associated with being everywhere; knowing everything, and seeing everything: omnipresence, omniscience, and panopticism. Residents of Arcoverde attribute these forms of extraordinary knowledge and authority to these spokesvoices. Lima, Lira, and João are remaking the city through their utterances, registering different aspects of contemporary Arcoverde as they speak, sing and scream. And by doing so, they index important shifts in the trajectory of the city. I argue that both the cosmopolitan and the nativist desires of the inhabitants of this heritage tourism destination can be heard in the sonorities of these voices. I explore how each has become entangled in discussions regarding Arcoverde's identity, as it is understood internally and projected externally

Keywords: acousmatic sound, acousmetre, vocality, sound studies, Brazil

Arcoverde, Pernambuco is a small city of 75,000 inhabitants on the edge of thedesert-like backlands of Northeast Brazil. It is located three hours inland by car from the coastal capital Recife. Within Brazil, the northeastern interior region has long been represented in popular music, literature, and cinema as a space of poverty, drought and massive outflows of rural-urban labor migration to the more industrialized South. Musicians and heritage tourists imagine it as a repository of folklore. Novelists and experimental filmmakers depict it as a space of rebellion and millenarianism, where vigilanti bandits are celebrated and maverick Catholic mystics preach the apocalypse.

When I first arrived in 2004, I met up with a poet and researcher named Micheliny Verunschk at an ice cream parlor on Main Street. As we made small talk about the autographed photos of movie stars that had recently visited to film a desert-themed TV series, a sound truck slowly drove by. It was stacked with speakers, blasting mournful a cappella choral music at high volume, a booming baritone voice announcing a death notice. It struck me as a jarring way to find out about a funeral, and Micheliny shook her head in between sips of milkshake, saying affectionately "Yeah, that's Lima."

Eleven years later, the funeral announcement sound truck, and Lima's somber, assured voice, had made a strong impression on me, as had Micheliny's gently embarrassed response. As soon as my first book was finished and it came time to start work on new

ethnographic research, I returned to the question of what it means for particular voices to become so intimately associated with a particular place. I became fascinated with the sounds and stories of Lima, and two other ubiquitous and representative voices heard in the city. Each was so well known that it is unnecessary to refer to them by their last names: Lima, Lira, and João (da Informação). I started thinking about the relationship between a place and its spokesmen (in this case, all three are indeed men), and suspected that it would be productive to consider how each of these masculine voices are projected into the public sphere, in all their timbral specificity.

The study of vocality is defined by Meizel as "a site where the making of sounds and the making of identity intersect" (Meizel, 2011: 267) and the making of identity is deeply tied to the making of place. I'm interested in how these three extraordinary voices tell us something about Arcoverde as it is perceived today. As I situate the sonority of these voices from the Brazilian backlands, will attempt to link the "grain" or materiality of the voice, as Roland Barthes puts it (Barthes, 1978: 179-189), to the means of its technological projection into the public sphere, as well as its prosody, vocabulary, and accent. I am also interested in the question of voicing, meaning the ways in which each of these speakers utters the words of multiple other people, characters and institutions in the course of their public forms of projected talk and song.

For example, Lima recites death notices in his golden-throated broadcaster's diction from his truck mounted with speakers that roams the city. Lira recites local popular poetry and sings songs, embodying legendary regional figures like the murderous bandit Lampião and the roving millenarian priest Antonio Conselheiro. His ragged, distinctive voice is heard disembodied on CDs and in person, projected into microphones during government-sponsored live shows. João da Informação's voice, in contrast, is only heard in Arcoverde's public sphere via telephone. Since the mid-1970s, he has served as an unofficial directory assistance and google maps, providing callers with memorized telephone numbers and directions to locations throughout the city.

What binds together Lima, Lira and João is that all three are most often heard in the city as *acousmêtres*, or authoritative, intriguing disembodied voices that are heard but not seen. For this presentation, I will engage with composer and film scholar Michel Chion's theorization of the acousmêtre or disembodied voice as heard in film (Chion, 1999), testing the extent to which the term can be applied beyond film to productively speak about the sonority of these extraordinary voices of the Brazilian backlands.

I say extraordinary because, following Chion, this kind of voice is associated with being everywhere; knowing everything, and seeing everything: omnipresence, omniscience, and panopticism. It is also a figure in which the desire to see the bodily source the heard-but-unseen voice is everpresent. Drawing on classic film, Chion describes the acousmêtre through scenes from movies such as 2001 (the voice of the computer HAL, who is everywhere, knows all, and sees all on the spaceship), and the Wizard of Oz. A key scene near the end of the Wizard of Oz serves as a definitive example of the deflating moment in which the body of an acousmetre is revealed, which Chion terms *deacousmatization*—the process when a powerful voice turns back into an ordinary person. When Toto pulls down the curtain on the wizard, his magic is revealed to be nothing but smoke, mirrors, microphones and loudspeakers.

This presentation is an account of the rise and fall of Arcoverde's acousmêtres. It is a story of three voices, each with a distinct relationship to a particular body, and each running the risk of being rendered ordinary and/or obselete. Neither Lima, Lira, nor João are absolute acousmêtres whose bodies are never seen, like the voice of god as apprehended in many major world religions. Chion would categorize them as imperfect or semi-acousmetres. But they are voices considered omnipresent, omniscient, and panoptic in certain measures.

Regarding their striving toward omnipresence, I am interested in where each is heard, and what forms of technological mediation each use to amplify their reach. Regarding their striving toward omniscience, I am interested in what they are aware of. What reserves of extraordinary knowledge has each mastered? In what areas are they considered authorities? Whose voices do they ventriloquize? Regarding their striving toward panopticism, I ask: What aspects of the city does each observe and map?

Lima, Lira, and João are remaking the city through their utterances, registering different aspects of contemporary Arcoverde as they speak, sing and scream. And by doing so, they index important shifts and tensions in the trajectory of the city. Yet, by signifying Arcoverde today, they bear the burden of the hopes and fears for the future of the city, and their voices and the means of their amplification are sometimes heard as precarious, awkward or in danger of vanishing. As the city becomes larger and more anonymous, determining the routes for the sound truck to deliver death notices becomes more difficult, and the notion of memorizing every phone number becomes untenable.

The cosmopolitan desires of the inhabitants of what I like to call a 'canonized periphery' — a heritage tourism destination—can be heard in the sonority of these three voices. Many residents of Arcoverde perceive the rural/urban in-between-ness of their community as cause for mourning, reassessment, and opportunities to generate revenue within a heritage tourist economy. These spokesvoices have become entangled in discussions regarding Arcoverdense identity, as it is understood internally and projected externally.

Anthropologist Michael Herzfeld defines these moments of unease regarding the outward projection of cultural forms that are thought of internally as quintessential as the collective embarrassment that is part of cultural intimacy (Herzfeld, 1996). Part of my goal, here, is to not only acknowledge how Arcoverde's residents identify with these representative voices, but also how they spark pangs of embarrassment, estrangement and nostalgia that are part of a contemporary reassessment of Arcoverde's position within the Northeast region, and Brazil as a whole.

Lima: A Voice of Death and Commerce

The baritone voice of Lima Ferreira resounds throughout the city, delivering mournful funeral announcements and rapid fire advertisements and political campaign messages. Unlike a radio within a private space, the listener can't choose to turn the sound on or off. Lima's sound truck imposes a message on the listener as it moves past. In addition to his sound truck work, Lima also performs radio spots that are broadcast live from the store that he is plugging. He walks around the city, calling in improvised patter via telephone to

the radio station regarding the specials that are featured in a given store on a given day. Between these two means of projection, Lima's booming voice is ubiquitous in the city.

By traversing the city of Arcoverde on foot and in his speaker truck, Lima asserts his close, firsthand knowledge of the city, mastering both the ins and outs of its commercial district, and the demographics of its residential neighborhoods. He has his finger on the commercial and community pulse of the city, knowing both who has which messages to be communicated, and also where the appropriate people are located in order to receive each message.

Lima cites two markedly contrasting voices from 1950s North American popular culture as reference points for his professional voice: Nat King Cole, and the voice of God in the classic 1956 Charleton Heston movie the Ten Commandments. The first time he heard the voice of God as a teenager was a pivotal moment for him. As Moses beholds the burning bush, God's voice exudes authority, evoking a being that is larger than human. Lima began working at radio stations when he was fifteen, and his 'golden throat' and social and bodily grace have provided him with the means of his social ascension. Lima, with a darker complexion and features perceived as more indigenous than most of the Arcoverdean elite, consciously modeled himself after Cole's habitus of the gentle, effortless crooner. Lima aspires to emulate his dulcet tones and graceful movements, not only in his announcing work, but also in his persona when singing karaoke and ballroom dancing, two activities around town for which he is well-known.

In Lima's advertisements, he often brands himself with the catchphrase "O Clima do Lima" (The Mood of Lima) throughout his advertisements, independent of the product being sold. He also employs an attention-grabbing faux-doppler effect, gliding up and then down right at the beginning of the ad, with a greeting of hello that can last over ten seconds. The Pernambucan sertão is ranching territory where many speak with a very distinctive accent, but with the exception of certain broadly uttered regional markers in pronunciation such as -de at the endings of words spoken as 'dee' rather than the standard 'gee' and -te at the endings of words spoken as 'chee,' his pronunciation adheres to the regionally unmarked broadcasting standard. When he does include a regionalism, he often does it with a slight hesitation that serves almost as air quotes.

Through his ads and announcements, Lima is the voice of both death and commerce. The funeral announcements contrast with the ads not only in the speed and mood of Lima's speech, but also in the speed that the truck drives its route through the city. As Micheliny's chagrin in hearing Lima's truck pass by tells us, Lima's voice, and the means of its projection via the sound truck, are vulnerable to cultural embarrassment. One way to explore this would be to listen closer to the incongruity between the cinematic voice of God and the seductive, sensitive crooning of Nat King Cole. If there is too much of a performance of invisible omniscience and omnipresence—too much "God Trick," as Donna Haraway puts it (Haraway, 1988)—in an ad, or too much smooth, charming performance in a death notice, a serious message risks being received as camp.

There are many angles by which one can consider the perils of blasting an obituary from a loudspeaker in a public space. For one, face-to-face everyday talk and announcing operate differently. Quoting Goffman, "nonbroadcast talk would seem to allow for subtler

changes in footing than does radio talk, in part because a speaker in everyday talk can obtain ongoing, backchannel evidence that his [or her] intention…is understood" (Goffman, 1998) And what circumstance of communication demands more delicacy and agility to pivot based on the response of the listener than the emotionally volatile information that a person—potentially a friend, co-worker, or relative—has died?

Lira: A Voice of Memory and Rebellion

While Lima is an announcer who seeks to embody a popular singer, Lira is a popular singer who seeks to embody a bandit. The technological means of the projection of Lira's recitations, singing and screams into the public sphere is not through sound trucks, but rather through digital recordings on CD and MP3, and through microphones on festival stages in Arcoverde and throughout Brazil. He now lives in São Paulo and usually performs only once a year in his hometown, so his local presence is overwhelmingly as a recorded, disembodied voice. The grain of Lira's voice bears the mark of two formative experiences for him: state-sponsored cowboy poetry recitation contests, and training in theater. Before he was even a teenager, Lira would travel to recite poetry that he had learned from the cowhands who worked on his father's ranch. Later, in his teens, he acted in various plays, honing the projection of his voice and portraying different characters. In the band Cordel do Fogo Encantado, he embodied on stage the figures so associated with the northeastern sertão of the maverick catholic preacher and the bandit—adopting an apocalyptic, prophetic, millenarian mood echoing that found in the avant-garde film *Black God, White Devil*, which depicts the region in what can be described as a kind of bleak Brechtian Western.

So while Lima aspired to the standard diction of a TV Globo announcer with a sprinkling of regional pronunciation and vocabulary, Lira used heightened, theatrical, poetic regionalist speech as a mark of distinctiveness. In his intertextual weaving of the words of popular and canonical poets, archaic terms and local cowboy lingo coexists with an incantatory tone. Lira merges the everyday *sertão* with the mythic literary and cinematic representations of the region. One of Lira's most emblematic vocal performances begins with an incantation in which he declaims—partly speaking, partly singing—while his voice rises roughly a fifth in pitch over the course of a four-line verse. He strains to exert himself, rising a few hundred cents before sliding down a little over a half step, and then beginning the ascent again. The rising pitch, strain and intensity of his voice combined with the lyrics about inclement weather give the feeling of climbing a mountain while weathering a storm to deliver a message. Using his theater training, Lira projects far from the microphone when he performs this song live, even stepping away from the microphone at points, shouting both to his flock of followers and to the heavens.

In another of Cordel's best known and loved songs "Tempestade" (Storm), however, he strains to be heard, buffeted by the storm. As he wails "se eu pudesse parar os elementos —mas não posso" (If I could stop the elements—but I can't), the percussion becomes pelting hail, and the echo effects veer away from the naturalistic and toward invoking an anguished inner state that amplifies the perilous landscape of an inhospitable mountaintop. Lira's voice emphasizes mid and high frequencies that more effectively cut through the band's thunderous wall of percussion. Purposefully straining his voice to its

limits, he fits Stras's observation that vocal damage, or the simulation thereof, "has acquired the status of a culturally inscribed desirable mutilation, at least partially analogous to tattooing." (Stras, 2006: 175)

João: A Voice that Maps and Orients

While Lira performs vocal and bodily damage and portrays the violent anti-heroes from the region's folklore, João bore the brunt of the the everyday violence of sertão life when he was hit by a stray bullet as a bar owner over 40 years ago. Having lost the use of his legs, he normally uses a wheelchair, but recent health issues have forced him to work lying on his side at home in a hospital-style bed. When I met João da Informação, he insisted on protecting his public status as a disembodied voice. I arrived at his house with professional video equipment in tow, but he asked that I not use it. João told me the story of his life through numbers. He is 82 years old, and plans to work until he is 90. For the last 40 years in Arcoverde, his home phone number has also served as Arcoverde's directory assistance, after the phone company discontinued their directory service. In 1975, when he started, phone numbers in the city only had 3 digits, but as Arcoverde grew and added phones from the late 1970s to the present, João just kept memorizing the numbers as callers requested them.

When I interviewed João in his home, he told his story in small chunks, until he resolved to take his phones off the hook for a few minutes so that he wouldn't be constantly interrupted. During the hour I visited, he didn't go more than 30 seconds without having to answer a call, and he relayed every number without consulting notes. Every half hour, João rotates reading a different promotional message from a local business at the beginning of the call. These advertisements are his only payment for this service that has become a lifelong profession.

In addition to phone numbers, the other informação that João regularly gives out are directions to specific houses and businesses around town. He is basically the town's google maps as well as its directory assistance. But unlike google maps, however, João's knowledge of Arcoverde includes past landmarks, past family feuds, and an encyclopedic knowledge of how the city has changed through the decades (who has lived where, and who has died when, for example).

The sonority of João's voice, as it is projected into the public sphere, markedly contrasts the voices of Lira and Lima in that the technological means of its transmission is the telephone, not a fixed or roving loudspeaker. As film sound scholar James Lastra (2000) delineates, sound reproduction technologies vary in their design, depending on whether they privilege the message being transmitted (like the telephone), or a high-fidelity reproduction of the sound at an actual event (like a hi-fi stereo recording). There is also the matter of the vocal intimacy of the telephone conversation, as face-to-face, we do not speak directly into each others' ears except in particular circumstances that signal intimacy and/or complicity.

Lima, in his technologically mediated vocal production, projects Charlton Heston's Voice of God, while trying to maintain the approachable, seductive intimacy of Nat King Cole. Lira

projects a damaged but urgent regionalist voice. He portrays the habitus of a millenarian preacher in a drought-ridden landscape in the grizzled "rock-and-roll" body of a brooding, visionary performer. João, in contrast, speaks matter-of-factly into the phone. He is soft-spoken with a strong, clipped Arcoverdean accent and is received warmly and with a certain nostalgia. While google cannot answer the question "Wait, was that house on the corner the one where Dona Creuza used to live before she died?", João can.

After a decade of performing, Lira had become weary of the burden of representing the Northeast region's mythology within brazilian popular culture, even as he "ransacked tradition," in his words, treating it irreverently. As he gathered his critical thoughts regarding the tangle of poetry, prophecy, music and commerce within which he found himself, Lira turned to Lima's voice as emblematic of the commercial sphere.

Lira wrote and acted in a one-man show in which he exposes the labor of his particular brand of show business by dismantling his past work to detail how it entails a kind of salesmanship, just like Lima. In a way, this live show, featuring Lira in the flesh, can be thought of as an attempt to "de-acousmatize" himself, revealing the person behind the curtain that had been rendered larger-than-life by smoke, mirrors, microphones and loudspeakers. Now, one could argue that this attempt to go "meta" simply turns the backstage goings-on into the spectacle, adding another layer to the showmanship. In either case, as Lira breaks down the elements of his sales pitch, he triggers samples of Lima's voiceovers with foot pedals.

With this power to invoke Lima's deep, disembodied voice with the stomp of his foot, Lira brings together the commercial and the poetic that are so often understood as separate and incompatible. Lira finds the salesmanship in his performance of poetry and prophecy as popular culture, at the same time he implies that there is poetry and prophecy in Lima's salesmanship. The two aren't as opposite as they are received, just as, it turns out, both sides of the conversation between the Ten Commandments' unseen God and on-screen Moses were voiced by Charlton Heston.

As Arcoverde grows into a regional commercial hub and transforms into a nationally known destination for heritage tourism, these three often-heard and little-seen voices are received with collective pride, longing and embarrassment that registers a shift. Imagining Arcoverde as a hometown small enough that it can be mapped and memorized is giving way to the perception of the city as a more overwhelming, anonymous and forgetful urban center. Concerns about the waning of orality and memory surface right at the moment that figures like Lira are giving oral tradition a second life as staged heritage.

Lira's expansive historical memory and feats of poetic memorization assuage fears of culture loss. His particular apocalyptic, mythological vision of Arcoverde fuels interest in the city beyond Arcoverde, and in the state capital Recife and the megalopolis of São Paulo in particular. To portray his Arcoverde, Lira stitches together past cinematic, literary, and folkloric representations of the region and combines them with aggressive popular culture such as punk and metal. This vision resonates deeply with intellectuals and college kids throughout Brazil, while often alienating local residents who ask: Why rehash a past

we are trying so hard to leave behind? Why portray regionalist tropes that we feel were imposed upon us?

Lima voices cosmopolitan desires, defining the city as a modern and booming commercial hub that is free of the supposed "backwardness" of its cowboy past. His ubiquitous voice with relatively region-free broadcaster's diction reigns in a city that serves as a backdrop of the "Wild West"-like backlands (in all their supposed "backwardness") on film and TV. The practice of the sound truck death notice only works in a place where social relationships are manageably mappable to the point where Lima can receive a notice and know which routes to drive to reach the deceased's group of friends. In the relative anonymity of a larger city, with suburbs and commuters and freeways, this sort of public address would most certainly fall short, if not seem absurd.

This open question about how long Lima should continue to disseminate death notices this way is also relevant to João da Informação's extraordinary feats of memorization. What began as less than 1000 3 digit numbers has grown into 8 and 9 digit numbers owned not just one per family, but increasingly, a phone for nearly every adult and adolescent. Despite the tidy austerity of the numbers João da Informação dispenses, he (and his callers) sustain, in Kathleen Stewart's words, a "local chronotope of haunting places" and a "melancholic poetics of loss" (Stewart, 1996) rather than a neutral google maps/directory assistance-style database. The dream of João's ability to fully apprehend the city by himself without machines in the age of google expresses a longing for a growing city not to succumb to the faceless anonymity of a projected urban existence.

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10. Graphic scores and diagrammatic thinking

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Abstract. The text starts by considering graphic scores (using resources beyond traditional notation) and explores the idea that all scores can be understood as diagrams. Deepening the understanding of diagrammatic thinking in the philosophies of Foucault, Deleuze & Guattari, as well as of abduction, through Peirce and Bateson, tries to discuss how graphic scores, introducing different notions of time and sounds, can be seen as a tendency to radicalize the diagrammatic content of musical scores in relation to traditional notation.

Graphic scores

Graphic scores are commonly understood as scores that explore resources beyond traditional notation, encompassing a broad range of notational practices as, extended staff notation, different sorts of graphical signs, scores made out of diagrams and pictures, scores with interactive parts, text-scores, sign-scores, among others. As examples of graphic scores in this sense, John Cage's *Notations* (1969) and Theresa Sauer's *Notations 21* (2009) can be regarded as reference books. Historically, graphic scores were used as a means "to challenge the metaphysical notion of the musical 'work', conceived and notated in solitude by a composer, and reproduced with deferential fidelity by the concert-hall performer" (CH, 2004:344). Breaking barriers in thinking about notation, graphic scores have opened the path for object-scores, interactive scores, video-scores, game-scores etc. Joan La Barbara puts this way, her motivation for the use of new notational resources:

> When I sing and when I hear sound in my mind, I often see or sense a visual shape. In my graphic notation, I try to notate the way the sound "appears" to me. I feel that Western notation is only a representation of the sound, a system, agreed upon by a large number of musicians, which approximates what the composer hears in his or her mind. By using graphics in addition to pitch notation, I feel I am approaching a system that allows my internally experienced sound to be better expressed and potentially reproduced with as much accuracy and originality of spirit as possible, allowing for the creative interpretation of the performer. (Sauer, 2009:124)

La Barbara's feeling reflects other statements in Cage (1969) and Sauer (2009), concerned with accurately representing sound imagination and balancing openness. Earle Brown refers to areas around the motivation for graphic notation:

> I was once very envious of painters who can deal directly with the existent reality of their own work without this indirect and imprecise "translation stage". In conversation I would ask them if they could imagine sitting down and writing out a set of directions so that someone else would be able to paint exactly what they themselves would paint in all details. I thought very much about this problem, from this angle of direct contact with oneself and sounds, and it had an effect upon my notation and performance concerns. (Sauer, 2009:40)

Observing his own work and the historical process as a whole, graphic scores appear as a tendency to escape traditional notation, but still favor notation. It is a political choice, that can only be sustained by a coherent political position towards music.

To take another view, we could look at the implicit pact that is part of the context where the word 'score' finds its musical meaning: a score is admitted as a reason to produce a musical activity. Through the net of interdependent relationships around musical activity in our urban society, it gains the power to gather many people and/or resources through time. That is a reinforcement of the conceptions of time and sound that it conveys. The score has a reality that is also political, historical. To admit a score as a central factor in producing a musical performance is a choice, a decision, and action upon it.

Traditional notation is ingenious, with plays of synchronous and successive sound gestures represented on an horizontal axis for time and vertical for pitches and voices, plus signs or written instructions for intensity, speed of pulse, instrumentation, playing techniques, and other characteristics of sound production. It can be understood at different levels of detail and serves many purposes. *Time* is conceptualized in a schematic way, that favors rhythms by symmetric division and fractional multiplication of a controlled discrete pulse, undergoing controlled fluctuations of intensity and duration. The same schematic thinking repeats itself for *sounds*, favoring symmetric pitch scales, if we think of symmetric divisions across octaves and symmetric building blocks, that construct acoustic intensities when combined and have controlled durations in perception and memory.

Graphic scores tend to seek ways of going beyond, by introducing different notions of time and sound production. This is one motivation to explore resources beyond traditional notation. There are problems, as a consequence, with defining graphic scores in such an open way. On one hand, the use of the word 'graphic' doesn't seem to be appropriate (in any language), since any musical score is a product of something graphic. Handwritten scores and originals reveal another level of communication, with a graphic expression that tells about the composer's mind and musical thought, more than what is imprinted afterwards.

> (…)   in the first place the term "graphic" is absurd in the sense that all notation has always been graphic   mozart's as well as architectural plans   it seems the term came into being only to point up the difference between what is/was academically acceptable (conventional notation) and what is/was going on   _   (…) (Typewritten text by William Hellermann, in Sauer, 2009:97)

On the other hand, as Hellermann also points out, referring to traditional notation doesn't seem appropriate, since it can only be defined in relation to how tradition is understood. This confusions mask the dramatic graphic characteristic of traditional notation and denote

an exclusive lack of awareness to that fact — traditional notation and graphic scores loose their commonness and are separated from each other. Musics without score remain exceptions in international academic concert music and radical creation of new musical notation using any elements available, is regarded with suspicion.

One could compare how another epistemology understands that exact same cultural context, as a way of putting it in a new perspective:

> There are these trees of songs in all limits of the forest, far beyond our land (…). So, there are as many kinds of *amoa hi* trees as our ways of speaking. In a way that the *xapiri* descending on the forest have an infinite quantity of different songs. That is why guest shamans of distant homes can bring us to hear forgotten songs. There are many of these *amoa hi* trees also in the far ends of the land of white people, beyond the rivers' mouth. Without them, the melodies of their musicians would be weak and awful. The *sabiá** spirits take to them leafs full of drawings that have fallen from these trees of songs. That is what introduces beautiful words in the memory of their language, as happens to us. The machines of white people, make of them skins of images that their singers look at, unaware that by doing so they imitate things coming from the *xapiri*. That is why white people like so much radios and recorders! But we shamans don't need those papers of songs. We prefer to keep the voice of the spirits in our thinking. (Kopenawa & Albert, 2015:115; my translation. *Songbird, *Turdus Rufiventris*)[1]

Receiving songs from the *xapiri*, from different trees of songs, that embellish the memory of our languages and produce strong and beautiful melodies among our musicians, is something that gathers all humans. The way we receive them differs. The shamans prefer to keep the voice of the spirits in their thoughts, their memories, remembering and transforming them, from what they can listen to. White people have yet another membrane, other then listening to the *xapiri* and their own memory: "skins of images". The yanomami concept emphasizes the reduction inherent to notation: they are not the whole image, just skins of it. There is a part of the process, carried out by our machines, that unfolds before we have them in our hands. One could say that we seem hypnotized, in Kopenawa's description. As a way of experiencing the songs of the trees of songs, we seek these skins of image, (unconsciously) knowing of their relative importance, extending that movement to listening to radio and recordings, as another type of image of the same source.

We do not identify scores with music: if you posses the score, you posses the music. Music is not on the score, but on sound. It can be on our mind, if we have exercised our imagination and memory in relation to that form of notation. With recordings, you have the ability to make music sound. What is lost, are the interactive and collective aspects of making music (Iazzetta, 2001). Nevertheless, there is too much decided on the basis of the assertion: score = music. For example, who enters and does not enter universities and music schools; who enters curricula; who gets funds. There is no need to discuss further in

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[1] "Há dessas árvores de cantos em todos os limites da floresta, para além de nossa terra (…). Assim, há tantos tipos de árvores *amoa hi* quanto nossos modos de falar. De modo que os *xapiri* que descem na floresta possuem uma infindável quantidade de cantos diferentes. É por isso que os xamãs visitantes de casas distantes podem nos dar a ouvir cantos desconhecidos. Há muitas dessas árvores *amoa hi* também nos confins da terra dos brancos, para além da foz dos rios. Sem elas, as melodias de seus músicos seriam fracas e feias. Os espíritos sabiá levam a eles folhas cheias de desenhos que caíram dessas árvores de canto. É isso que introduz belas palavras na memória de sua língua, como ocorre conosco. As máquinas dos brancos fazem delas peles de imagens que os seus cantores olham, sem saber que nisso imitam coisas vindas dos *xapiri*. Por isso os brancos escutam tanto rádios e gravadores! Mas nós, xamãs, não precisamos desses papéis de cantos. Preferimos guardar a voz dos espíritos no pensamento."

this text, what others have done much better. The yanomami understanding of our cultural context, reveals the strength of the conception that led to scores and recordings as commercial commodities, refraining our machines of any deviation of their norm.

Score points to music, but music doesn't necessarily points to score. This paradox is stated by Terry Rusling, reproduced in John Cage's *Notations* (1969:27): "euphuistically, notation's essence is nonessentiality". Nothing happens musically if there is no interaction of what is notated with creative minds that interpret and support it. What our creative minds interpret and render in sound, depends on a complex multimodal effort of our part, involving: many types of memory and inter-relationships between them; emotion and psychological efforts; fine and broad muscular control; extreme listening attention and skills, among other things. Notation always implies some kind of translation between what is notated and what is performed — which is a complex process, presupposing a range of interdependent abilities. Every score is constructed in the hope of undergoing that process, irrespective of style, medium or notation system.

Diagrammatic thinking

Traditional and new practices in musical notation can be understood, not as belonging to two different categories, but as a continuum of notation, with different movements, territorializations and deterritorializations, within a broader continuum of creative sound activity. They systematize a way of understanding a complex flow of sound events, summarize directions to reproduce that flow and serve as support for the performance, allowing freedom of interpretation. That is why, along with being of graphic nature, all scores can be seen as drawn diagrams.

Susanne Leeb (2011: 29-42)[2] points out that there are at least two different ways of understanding the term *diagram*. Some understand them mainly as tools of systematization, resolving problems with their capacity to support perceptive inferences that are extremely easy for human beings. In this sense, they can be regarded in terms of their potential for order and visualization, and manifest themselves as retrospective: "by means of diagrams, a complex thought process or argument can be composed or a set of circumstances systematized". Others understand them as proliferators of processes of unfolding, maps of movement, regarding them as projective: "with vectors pointing in unknown directions". These are not two fundamentally different types of diagram, but an oscillation between systematizing and openness, that is inherent to diagrams — or *immanent*, since it cannot be separated from their nature. Leeb sees a milestone to this second approach of diagrammatic thinking in the philosophies of Michel Foucault, Gilles Deleuze and Félix Guattari. In her view, diagrammatic thinking extends the possibilities of thought, by generating a cognitive sweep, highlighting points of change, resistance, destabilization and discovery, where creative processes take place.

In analyzing the *panopticon*, Foucault understands it as a way of thinking that deeply roots its traces in architecture, conformation of bodies and space, derogation of human relations, stressing of hierarchical organization and centralization of power. He concludes

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2Gansterer's book as a whole is an unique example of diagrammatic thinking, with concepts, risks, creative possibilities and technical information about diagrams being stated far beyond the written text.

that the panopticon is a figure of political technology, if we understand it detached from any specific use. In that sense, it can be understood as a "diagram of a mechanism of power reduced to its ideal form" (Foucault, 1995:205). As all diagrams, the panopticon is polyvalent in its applications:

> It is a type of location of bodies in space, of distribution of individuals in relation to one another, of hierarchical organization, of disposition of centres and channels of power, of definition of the instruments and modes of intervention of power, which can be implemented in hospitals, workshops, schools, prisons. Whenever one is dealing with a multiplicity of individuals on whom a task or a particular form of behaviour must be imposed, the panoptic schema may be used. (Foucault, 1995:205)

Foucault dissects its history of oppression and domination, and observes that "the fact that it should have given rise, even in our own time, to so many variations, projected or realized, is evidence of the imaginary intensity that it has possessed for almost two hundred years". In Foucault's understanding, diagrams will always show the author's 'position'. Be it in spatial and metaphorical sense, when drawn, be it in historical, political sense, materializing the lines that connect the subject to the social field and its power relations. This has a double implication on diagrams.

> The diagram remains not external to the subject, but rather is essential for its formation. A diagram drawn would then be only a materializing of all those lines which connect the subject in its relationships to the social field. The fact that this makes an inner/outer distinction increasingly difficult notably resulted in the strong relationship of the diagrammatic to mental space. It abandons Euclidian space in perspective form and conceives space topologically. (Leeb, 2011:32)

Diagrams describe processes in topological terms: modal relationships between spatial entities, their correlations, their position in relation to each other, their sequence, parts or aggregates in space, irrespective of ratios and proportions. Leeb stresses that diagrams go beyond illustrations or systematizations of a set of circumstances, rendering space productive as mental space. In that context, "intervals, distances and locations also become meaning-giving and meaning-resolving elements". Diagrammatic thinking focuses in defining relationships within a process — not the understanding of systems or structures, but of the logic of intensities.

> While the logic of discursive sets endeavors to completely delimit its objects, the logic of intensities, or eco-logic, is concerned only with the movement and intensity of evolutive processes. Process, which I oppose here to system or to structure, strives to capture existence in the very act of its constitution, definition and deterritorialization. This process of 'fixing-into-being' relates only to expressive subsets that have broken out of their totalizing frame and have begun to work on their own account, overcoming their referential sets and manifesting themselves as their own existential indices, processual lines of flight. (Guattari, 2000:44)

Scores, as drawn diagrams, are part of the 'fixing-into-being' of musical processes, with their processual lines of flight: "It is only their representative nature which allows one to recognize how lines channel thought in a figurative as well as in a spatial sense" (Leeb, 2011:33). They help establish relationships in the process and are not exclusively images, pointing to ways of overcoming their referential set. As Leeb summarizes, diagrams as an

operational drawing principle, "escape the insoluble dialectic of presence and absence which pervades the play of representation".

Deleuze and Guattari (1987:145-146) refer to the diagrammatic as one of the four components of a regime of signs, which are the *generative*, the *transformational*, the *diagrammatic* and the *machinic*. Their thought flows in many levels at the same time and is very difficult to summarize. To understand the diagrammatic, though, one should know first that: an *abstract machine* is an idea that can define any living being or process around us, open to its transformations along time; an *assemblage* is the way by which parts of what is available in an organism or process come to organize. In defining them, they actually define their relationships, and the diagrammatic comes into play.

> For a true abstract machine pertains to an assemblage in its entirety: it is defined as the diagram of that assemblage. It is not language based but diagrammatic and superlinear. Content is not a signified nor expression a signifier; rather, both are variables of the assemblage. (Deleuze & Guattari, 1987:91)

Content and expression are understood as being in the same plane, variables of the same function; an abstract machine, is on a superlinear plane, "a plane whose elements no longer have a fixed linear order: the rhizome model" (Deleuze & Guattari, 1987:91). By thinking along those lines, they escape a hierarchical configuration.

> Defined diagrammatically in this way, an abstract machine is neither an infrastructure that is determining in the last instance nor a transcendental Idea that is determining in the supreme instance. Rather, it plays a piloting role. The diagrammatic or abstract machine does not function to represent, even something real, but rather constructs a real that is yet to come, a new type of reality. (Deleuze & Guattari, 1987:142)

Each drawn diagram constructs a reality at each time it is interpreted, responsible for movement, decision, choice, action. It is in a plane of communication where words play a small part or don't take part at all. In the sense of Deleuze and Guattari, an abstract machine, defined by the diagram of its assemblage, has names and dates, which don't designate persons or subjects but matters and functions.

> The double deterritorialization of the voice and the instrument is marked by a Wagner abstract machine, a Webern abstract machine, etc. In physics and mathematics, we may speak of a Riemann abstract machine, and in algebra of a Galois abstract machine (…), etc. *There is a diagram whenever a singular abstract machine functions directly in a matter*.
> Strictly speaking, therefore, there are no regimes of signs on the diagrammatic level, or on the plane of consistency, because form of expression is no longer really distinct from form of content. The diagram knows only traits and cutting edges that are still elements of content insofar as they are material and of expression insofar as they are functional, but which draw one another along, form relays, and meld in a shared deterritorialization: particles-signs.(Deleuze & Guattari, 1987:143; my emphasis)

After concluding that form of expression and form of content are in the same plane of consistency, variables of the assemblage, they conceive of what diagrams are made of in a subtle and effective way, stressing how drawn diagrams and ideas are intertwined: traits and cutting edges, as matter of thought and design, seeking to define content-matter and expression-function in a process where they draw one another in interaction and construct

new types of reality. Scores open up the possibility of constructing new realities at each step of interpretation. Any score has its openness, consciously used as an aesthetic choice or determined only by imprecision and inconsistencies of notation. The more the score relies on precision of notation, the more it tends to the axiomatic, returning rules and incontestable truths within the adopted system. In describing why the axiomatic is different from the diagrammatic, Deleuze & Guattari (1987:144) touch what could be the history of any form of musical notation becoming hegemonic, referring to a coagulated abstraction that can be observed in contemporary music.

It is not enough to say that axiomatics does not take invention and creation into account: it possesses a deliberate will to halt or stabilize the diagram, to take its place by lodging itself on a level of coagulated abstraction too large for the concrete but too small for the real.

Today, compositional abstract thought on notation coagulates and doesn't fit the concrete anymore, distancing itself from anything pertaining the body and becoming too small for the real sound and its complexity. This has to do with a diagram that many have pointed before. Traditional notation renders *time* in a grid, that may be described as linear, discrete, cut in halves, thirds and other odd numbers. It is flexible in those divisions, with ways of controlling fluctuations. As a notation, represents *one* specific way of perceiving time. This diagram repeats itself for *sounds*. Traditional notation superimposes a grid to the whole sound spectrum, that is flexible in its divisions and where fluctuations can be controlled, pointing to a history of how to organize them. All these can be found in the printed or handwritten score, as traits and cutting edges of how to think about time and sounds. The relationship between handwritten or originals and printed or copied scores reveals yet another flexible grid with local fluctuations, where not all information survives the reduction to the vocabulary of printing or copying (see Iazzetta, 2001).

Understanding that even the most accurate notation of musical events in a sound flux will be performed differently each rendition, is crucial to the perception that when following the openness of a score (any score, with any amount of openness), one merges into the functioning of the diagrammatic in it. Graphic scores seem to be a tendency to radicalize the diagrammatic content of musical scores in relation to the political position of traditional scores. Not something opposed or simply different, but something pertaining to the same continuum between axiomatic and diagrammatic. The more diagrammatic, in the sense of being the diagrammatic or abstract machine of an assemblage, the more it creates new realities, open to destabilization and discovery. As dynamic relations between traits and cutting edges, pointing to processual lines of flight, the same diagram creates different results, but they are always transformations of content and expression, matter and function, pertaining a specific assemblage.

The questions now tend to be those about the traits and edges that constitute the diagram, their relations and connections. The epistemological turn lies in finding ways of translating or transducing the diagram between different fields or fluxes or planes of consistency, in Deleuze's sense. Although very different in their scope and nature, *translation* can be understood as belonging in a same general class of processes as *transduction*. Translation is the creation of *meaning* from one language to another or from one culture to another. Transduction is the creation of *correlations* in time from one flux of energy to

another. In both cases, something is shared, as a flow, by two fluxes: that is the class of processes to which both can be understood as belonging to. Interpreting is also linked to that general class of processes. Score (from composer) and performer share a common set of informations as a flux.

Abduction

Abduction is some kind of translation as well. It is commonly addressed as a method in formal logical operations, as part of the logic of science, alongside deduction and induction. The philosopher Charles Sanders Peirce (1994:5.189) understood abduction as "the operation of adopting an explanatory hypothesis", and procede to deduction, defining testable consequences from the hypothesis that abduction helped to conceive. Finally, induction helps with the decision as to which hypothesis better meets the explanation. Peirce's understanding of abduction is not clear until today, mainly in regard to how/why the object of an abduction is selected. Gregory Bateson would define abduction, based on Peirce and on his own search for *patterns* (understood as dynamic, changing in time), as "that form of reasoning in which a recognizable similarity between A and B proposes the possibility of further similarity" (Bateson & Bateson, 2005:206), a "lateral extension of abstract components of description" (Bateson, 2002:133). Much of Bateson's method is based on the premise that the human mind would seek to recognize those patterns and, therefore, as in Pierce, the validity of abduction as a logical operation is surpassed by its function.

> The use of syllogisms of metaphor, which he called abduction, was for him a basic intellectual strategy, the search for insight through analogy, as when he analyzed the process of evolution as analogous to the process of thought. His intention, of course, was to assert significant similarity, of the kind that permits further inferences, rather than identity. (Bateson & Bateson, 2005:192)

Through abduction, he wanted to state a *homology*, "a formal resemblance (…) such that the relations between certain parts of A are similar to the relations between corresponding parts in B" (Bateson & Bateson, 2005:208). As examples taken from Bateson's work, we could look for the characteristics of the anatomy of a frog that can be extended laterally to other species; or the anatomy of our binocular vision, where the sense of depth emerges, and extend it laterally to our processes of learning. This last idea coupled with the idea of dynamical patterns — a diagram —, was used by him in different approaches of his cybernetic and systemic thinking and inspired second order cybernetics and autopoiesis.

Guattari (2000:54) presents a critic of Bateson and his adoption of hierarchies of logical types to explain mental process. He recognizes, though, Bateson's contribution in showing that 'mind' is not necessarily confined to the boundaries of a particular individual and that we are living within an ecology of ideas.

> I part company with Bateson when he treats action and enunciation as mere parts of an ecological subsystem called 'context'. I myself consider that existential taking on of context is always brought about by a praxis which is established in the rupture of the systemic 'pretext'. There is no overall hierarchy for locating and localizing the components of enunciation at a given level. They are composed of heterogeneous elements that take

on a mutual consistency and persistence as they cross the thresholds that constitute one world at the expense of another. (Guattari, 2000:54)

Conclusions

By a process of abduction, finding similarities and extending them laterally, both, composer — towards the score — and interpreter — towards the performance — try to translate or transduce a musical idea. Through diagrammatic thinking, the score can be understood as the systematization of a complex process involving sound production in time, thought out and described through its relations of force; a diagram, with processual lines of flight, constructing new realities, and their historical and political implications. Form can be understood as a becoming, linked to a specific abstract machine, with score pointing to the diagrammatic definition of that abstract machine's assemblage. Thinking about the creative process in that way, opens the possibility of observing processes and learning from them, building mental tools that help exploring notation systems, as well as open forms or openness of forms.

As an example, one possible mental tool is thinking about *metapatterns*: a pattern of interrelationships of patterns of interrelationships (Puig, 2014). Its hierarchical configuration constitutes only one family of types of diagrams, in which an arborescent and a rhizomatic structuring may mix. The study presented in this text can be much more deepened, finding its way to problems of interaction or inter-relationship of different medium and materials in arts.

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11. Michel Chion's contributions to the study of representation in sound arts

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Abstract. In this paper I intend to discuss Michel Chion's contributions to the field of sound theory, specifically in what concerns his treatment of causal perceptions – meaning the perception of an event or action that caused a sound as well as of the physical body that acted as its source. The objective of this paper is to discuss to which extent Chion manages to enrich sound theory in what concerns the study of representation through sound, considering the author still holds, to a substantial degree, a rather schaefferian epistemology. The method will be a critical commentary of some Chion's theoretical work.

Keywords: Michel Chion, listening, representation, causal perception.

1   Introduction

In this paper I intend to discuss Michel Chion's contributions to the field of sound theory on his 1998 book *Le son*. Specifically in what concerns his treatment of causal perceptions – meaning the perception of an event or action that caused a sound as well as of the physical body that acted as its source.

Michel Chion is a composer of *musique concrète*, film critic, and filmmaker active since the 1970's. Chion has written some of the most widely read works on electroacoustic music, sound and film. *Le son: traité d'acoulogie*, published in 1998, is a major work on sound theory in the arts, which takes some aspects of his earlier work on the field, notably from *Guide des objets sonore* (1983), *L'audio-vision* (1994), and *Musiques, médias et technologie* (1994), and combines them with new insights drawing extensively from film works, music and literature.

Michel Chion's theoretical work is marked by a galore of examples that seem to trigger the discussion, parting from case studies that give rise to more general considerations, but his theories of sound are actually largely indebted to Pierre Schaeffer's work – *Traité des objets musicaux* (1966), in which the author proposes the fundamentals for a research that would open the way to a new musical theory, appropriate for a generality of musical practices, including the ones that were emerging at the time. Schaeffer's method involves finding abstract values in sound objects perceived by the listener to construe structures which in turn might reference a musical system. To that end, Schaeffer rejects the use of certain kinds of sounds, deemed "inconvenient to music", both on his theoretical work and on his pieces from 1958 on – notably sounds that evoke a relatively clear causal perception, so called anecdotic.

Chion, on the other hand, will make extensive use of these types of sound on his compositional work, and also defend the importance of them as expressive tools on his theoretical work. In *Le son*, Chion deals abundantly with the problematic of anecdotic sounds, their perception and their artistic use, while still maintaining some aspects of the

Schaefferian way of understanding the act of listening: notably the sound object as a fundamental perception that gives rise to every other kind of perceived objects, but also a model of functions which operate in the act of listening and an ambivalence between natural and cultural aspects that constitute perception.

The objective of this paper is to discuss to which extent Chion manages to enrich sound theory in what concerns the study of representation through sound, considering the author still holds, to a substantial degree, a rather Schaefferian epistemology. The method will be a critical commentary of Chion's theoretical work, with special attention to *Le son* (2016).

2   The primacy of listening and the intersubjective objectivity

Chion's method seems to be mainly intuitional. Although he frequently stresses that his findings have all been tested in the classroom, there does not seem to be any rigorousness in this process of testing, apart from the fact that it's safe to assume that its subjects come from a very specific group a people (music or film students in France), making any generalization made from it questionable from the start. That being said, Chion does have interesting insights, as well as a good selection of examples (mainly literary and film works), that, independently of their verifiability in a scientific sense, guarantee the interest in his theoretical work.

In *Le son*, Chion repeats some of the findings Schaeffer had already exposed in his *Traité*, even if sometimes he fails to mention the source. For instance some of Chion's thoughts on time and hearing are clearly based on the idea of temporal anamorphosis, and his critique of the physical measures of sound replays Schaeffer's search for correlations between acoustic and listening[1], although both arguments here are considerably less extensive in comparison. There's a more fundamental Schaefferian idea though, that's behind both those arguments that Chion also inherits: the primacy of listening.

The primacy of listening is a postulate which considers that listening shall be the primary method of investigating the object. It is through listening that the object might be accessed. This postulate probably has some level of inspiration in Merleau Ponty's primacy of perception, exposed in his 1945 work *Phenomenologie de la Perception* (1976), Both authors, Chion and Schaeffer, mention this book here and there, but there affiliation to phenomenology as a system of thought is highly questionable for reasons beyond the scope of this paper.

The primacy of listening is combined with the idea, which can also be found in Merleau-Ponty, that objectivity is intersubjective, meaning that that which a group of people agrees upon is the objective reality. (Chion, 2016: 914)[2] That's why Chion will constantly argue for the shared aspects of his findings and reject any cultural relativism or subjectivism in his writings.

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1 Both these arguments can be accessed in the Book III of Schaeffer's *Traité des objets musicaux* (1966)
2 This refers to a kindle edition; the numeration is not the page number but the "position" that locates the excerpt in the ebook.

3   Listening modes

In one of his books about sound in cinema, *Audio-Vision* (1994), first published in 1991, Chion defines three listening modes which will serve as the basis for his thoughts on sound: causal listening, semantic listening and reduced listening. Causal listening is defined as "listening to a sound in order to gather information about its cause (or source)." (Chion, 1994: 25) Semantic listening is "that which refers to a code or a language to interpret a message: spoken language, of course, as well as Morse and other such codes." (28) Finally, reduced listening is the mode "that focuses on the traits of the sound itself, independent of its cause and of its meaning". (29)

These modes are clearly based on Pierre Schaeffer's four listening functions presented in this *Traité des objets musicaux* (1966). The four functions are named after four different French verbs for listening, which can't be translated to English without causing confusion: *ouïr*, *écouter*, *entendre*, *comprendre*. Each of these functions involves a specific intention. In short, the listening functions can be defined as follows: *ouïr* is the function used when one listens to the background; *écouter* is used when listening to the source of the sound; *entendre* is the intention of selecting aspects of the sound itself; *comprendre* is the function that listens to meaning, it relates the perception to a code previously known. (Schaeffer, 1966: 104)

What Chion presents is a simplification of the Schaefferian model that suits best his use of it. The causal listening is clearly inspired by *écouter* and the semantic listening by *comprendre*. The reduced listening mode, apart from being originally a schaefferian concept that has been presented by Chion in a rather simplified manner, in a way substitutes both *ouïr* and *entendre*. In Schaeffer, the reduced listening is an exercise for deconditioning perception, that intents to get to the sound itself, instead of focusing on other perceptions that are constructed on top of it. Reduced listening gives access to a deeper and original level of perception that transcends the more common perceptions of cause and meaning, which depend on cultural contexts and a previous knowledge of experiencing the world, focusing on sound forms and contours. In Schaeffer, the relation between *entendre* and *ouïr* is similar to the figure/ground relation in Gestalt (which is an important reference to his theory): *entendre* selects aspects of sound in the background that *ouïr* is providing. Reduced listening might be understood as a specific use of these functions.

There's a considerable difference in the use of reduced listening, comparing Chion and Schaeffer. For the later, reduced listening is a method of deconditioning the way we normally listen, which has been previously conditioned by culture. Schaeffer is interested in opening up musical listening to new types of sounds, that doesn't fit into the notion of the musical note. The objective of his *Traité* is to research the basis for a new musical system. In this context, reduced listening provides a path for ignoring the aspects which are valued in traditional music listening and finding new aspects in sounds that are not necessarily made by musical instruments. At the same time, reduced listening also avoids focusing on the cause of the sound (the body which vibrates, the action which put something in vibration), which helps when the material being used is recorded acoustic sounds.

Chion, on the other hand has no interest in building a new musical system. Reduced listening for him is not a method of research, on contrary; it's an important part of the apprehension of an art work as it provides an enjoyment of sound by itself, beyond musicality and representation. So, in Chion's theory, reduced listening is aestheticized from the start:

> The feeling of sonic beauty is thus linked to the perception of certain sonic criteria that are either harmoniously combined or adapted to their context. The study of the sound aesthetics of films must also rest on sensory criteria–criteria that reduced listening allows us to apprehend by going beyond the traditional musical criteria, which often do not apply. The notion that the creaking of a door, a scraping sound, an impact–whether in a piece of *musique concrète* or in a film–can be beautiful will cease to elicit sneers when it is understood which laws of balance, energy, force, expressivity, and power they can follow– or not–if they have knowingly been given form, profile and substance. (Chion, 2016: 1868).

4   Materialities of sound

An important thing to notice about *Le son: traité d'acoulogie* is the fact that despite its universalistic title, and the evident attempt to be a totalizing book on the subject, the matter of the book is actually rather constricted to clear limits. Chion's artistic universe is limited to literature, eletroacoustic music, traditional western music and film (mostly narrative). Although the first edition of the book has been released in the late 1990s, the author does not consider several manifestations of sonic arts that were quite well stablished at that time, like sound installations, sound sculptures, sound walks, etc. In other words the artistic practices that have been brought together in the umbrella called "sound art". This makes possible for Chion to continue working with a kind of materiality of sound that is basically derived from Schaeffer with a few adjustments.

4.1 The sound object

According to Schaeffer, the reduced listening has an object that is its correlate which he calls the sound object. As a correlate to an intention that negates some aspects of perception, the sound object tends to be defined negatively. Thus Schaeffer will say that the sound object is not the source of the sound; it's not the physical signal; it's not the technological support were the sound is recorded; it's not the meaning the sound carries. (Schaeffer, 1966: 268-270) The sound object is understood as "the sound itself", an original dimension of perception free of cultural influences. Reduced listening, Schaeffer believed, gives access to the aspects of sound that are universal, those which makes possible all the perceptions we normally have, related to our cultural constructs.

Chion doesn't write much about a theory of the sound object and the concept is not as widely present as it is in Schaeffer, but the idea of a "sound itself" that exist beneath our common perceptions is always there even if not always explicit. This becomes evident when Chion starts to divide the universe of sound into music, speech and noise.

4.2 Music, speech, noise

Chion makes a distinction between sound and language based on Saussure (another common reference between him and Schaeffer):

> It is impossible for sound alone, a material element, to belong to language. It is only a secondary thing, a substance put to use. [The essence of the] linguistic signifier is not phonic but incorporeal - constituted not by its material substance but solely by the differences that separate its sound-image from all others. (Saussure apud Chion, 2016: 1304).

To which Chion adds: "the phoneme isolated from the word becomes sonic matter, voice, noise, what have you, but it becomes separated from any linguistic belonging." (Chion, 2016: 1315) Thus, to Chion, language is a dimension that is superimposed on sound. Once more following the steps of Schaeffer, Chion will combine this idea of a separation between language and sound with Roman Jakobson's argument that "it is not the acoustic phenomenon in itself which enables us to subdivide the speech chain into distinct elements; only the linguistic value of the element can do this." (Jakobson apud Chion, 2016: 1320)

It's using the Jakobson idea of a linguistic value that Schaeffer will define a pair of concepts that are fundamental to his ideas on the musicality of a sound: value and character. Value refers to an aspect of a sound that varies (the frequent example given is pitch), and character to an aspect that is fixed (for instance instrumental timbre). These are the two aspects that combined makes possible the musical structuring of the listening process. A sequence of sound objects with different values and same character will form a structure that is related to a structure of reference, and the latter is then related to a system of references.[3]

Chion is not particularly interested in this chain of references, or either in creating a new musical system as Schaeffer was, but he does use the same logic of values when talking about "musical sounds" in the sense of traditional western music.

> There is a common ground shared by the domain of music and that of speech when the two appear opposed to the world of noises: in both cases, the succession of sounds is perceived as beholden to a certain overarching structure, to an organization that retains the "value" of each sound, whereas that which does not make an immanent logic emerge is heard as a succession of noises. (Chion, 2016: 1676)

The word "noise" is used quite freely by Chion, there's a discussion on the concept, considering a few diverse definitions (2016: 1601), but the author doesn't pick a specific one and continues the text using one of two definitions: noise as that which is not meaningful, either through language or music, as can be seen in the previous citation; and noise in the sense that the French word "*bruit*" has in cinema – everything that is not dialogue or music (sound effects, folley, ambience).

For Chion, what distinguishes music and speech from the "confused" and "chaotic" universe of "noises" (in the sense of everything that's' left) is the identification of certain

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3 See Book IV from Schaeffer's *Traité des objets musicaux* (1966)

"values", which are culturally specific – an unknown language is heard as noise (2016: 1648). For him, the audible universe is a continuous field which the ear divides into these types of sounds (music, speech, and noises) according to the codes that are known (2016: 1567). For the listener to be able to read this sonorous universe as a whole, the confusing field of noises needs to be structured somehow. This structure is not something natural but needs to be learned, and "[t]he Schaefferian criteria provides the means" (…) "to begin to perceive units, points, and lines within the apparently undifferentiated continuum of the audible universe." (1633)

Both speech and music (meaning traditional western music) are not exempt from noise. For Chion, speech and music are a type of structure in which certain sounds fit, but that doesn't mean they get completely purified of noise – meaning all that doesn't fit. Noise is always there "hitched onto the thread of the notes, and the musical is nothing other than this thread. But if we were to suppress these 'little noises,' the music would lose its flavor." (2016: 1679) Chion illustrates this image with a classical guitar piece: the structure of notes always comes inseparable from several little noises from the fingers in the strings. The same occurs with speech, it's not only the words, there's accent, voice timbre, etc. This is the dialectic of noise and music that in Chion's view gives interest to music: "At the same time, the musical brings noise into the foreground as an event, as a moment of the real, while noise for its part, like a beauty spot, magnifies the musical." (1695)

This idea of a continuum of sound that gets divided by our modes of listening makes evident how the Schaefferian base for Chion's theory is present here also. There's a belief in a level that contains all possibilities of perception undiscerned. Exercises, like the reduced listening, will take us farther and farther into the realm of sound (or "noise") beyond the known codes.

4.3 Imitation and "causalism"

It might seem strange that Chion, a *musique concrète* composer, talks about music focusing almost exclusively on traditional western music. In fact this theory of the "value" seems to fit more appropriately in this kind of music – a music that uses notes. It's relevant to say that Schaeffer deduces this concept in an analogy of his understanding of what he calls the "traditional musical system" (Schaeffer, 1966). Chion doesn't solve the problem of the "value" in relation to *musique concrète*, but he argues that:

> Music based on sounds that do not have the proper form in the traditional sense but other textural qualities is obviously possible and is even widely practiced. It is easy enough to do as long as other means – in particular certain formalities, the care with which it is presented to the public, in a concert hall – create the frame that affirms it as such. (Chion, 2016: 1790)

Thus, the main exigence for a work to be musical, for Chion, is that it is presented in the appropriate "frame". That's not exactly a flight from the question, since Chion argues that the quality of conforming to the "value" – e.g. the musical note – and thus being "musical", is itself a "frame" that guarantees musicality for being associated culturally with the musical tradition:

the fact that a musical sound is beholden to a specific form that distinguish it from sounds in the ordinary world, that it is put into an organization with others of its type according to a very exacting law, and that, perhaps above all, it issues from a source listed as an instrument set aside for the production of musical sounds, would be the equivalent of framing, such that we can recognize it as belonging to the work and not to reality, since, on the spatial plane, it mingles with the sounds of life. (Chion, 2016: 1758)

Pierre Schaeffer famously rejected the use of sounds that brought a clear causal relation to listening. Michel Chion opted for the opposite path, defending the artistic use of sounds with a perceptible source. In fact, his musical work is full of these sounds, and a good part of it have clear narrative preoccupations.

Chion defends strongly the use of imitation in music. Criticizes Russolo for proposing that music would "progress by annexation" (Chion, 2016: 1805), accuses him of "colonialism" for describing the history of music as the "colonization of savage territories" (1821), but most of all, for what Chion calls the "causalist misunderstanding", rejecting imitative reconstruction of noises:

> If in effect the project of imitating a noise is immediately thought of as a naive "illusionist" evocation of the source, this is because the goal of such an approach is implicitly put forward as producing the illusion of presence of the sound source – a *trompe l'oreille*, or auditory illusion. As if figurative painting had stopped at the idea of a *trompe l'oeil*, or optical illusion. Just like a tree's bark, the shaking of poplar leaves possesses its own texture. Attempting to imitate it, as have certain composers of *musique concrète*, often using various electronic sources, has nothing to do with the idea of producing the illusion of the tree by the sound. Rather, it is *heading off in search of the audible*. (Chionm 2016: 1853)

"Causalism" is defined by Chion as an implicit reduction of a sound to its cause or causes. According to Chion, it's an attitude that limits the activity of listening to an established idea of a cause, instead of listening also to other characteristics of a sound. (2714)

Thus, Chion criticizes Russolo's initiative of making noises that would in a way conform to tradition, in favor of an aesthetics that is open to imitative sounds. There's an important aspect of Chion's position which is the matter of the "frame". Chion argues against what he calls the "sublimation" that music, in the traditional sense, is supposed to operate.

> people are quite ready to allow noises to be imitated, but they want the imitation to be sublimated. The illusion that the original and the reproduction are the same is unacceptable; rather, there must be an aesthetic leap such that the latter evokes the former without for all that resembling it. (Chion, 2016: 1664)

Chion defends the position that representation through sound should be welcomed in music without the need of assimilating it to "the musical"; without conforming sounds to parameters, to notes. But as we have seen, for that to be "music" it needs a "frame", in the case Chion has argues above, it needs to be in the concert hall. Then it seems appropriate to ask: isn't that already a type of sublimation, even if in a lighter level? The "real" that Chion intends to include into the "art" doesn't really break borders between art and life, and that's an important insight into Chion's thought.

4.4 Causal listening and figurative listening

When discussing causal relations in the perception of sound (Chion, 2016: 2340), Chion is extremely skeptic with the common sense notion that the cause is in fact knowable through listening. But we soon understand why: when Chion thinks of listening, he's thinking of a hypothetical situation where one would be deprived of all other senses. He's not considering listening as a global, multisensorial activity. Chion will argue that, deprived of vision, smell, touch or any other way of gathering information, including memory and knowledge of context, it's in only a small percentage of cases that one would really be able to know the cause through listening. Chion argues for the notion of "causal vagueness" which basically states that sound inform us very little about "reality". (2016: 2496)

The concept of the "cause" of a sound, in the way it is argued by Chion also puts in evidence a type of materiality, the cause is not intrinsically connected to the perception but it is brought by the perception of the sound forms that by its characteristics identify a cause. There's a clear separation between on one side the sound and on the other its cause: the vibrating body, the action that puts it into vibration, and the individual that acted.

Even when dealing with causality, Chion maintains a separation between the sound and the context, the ideas of causal vagueness and the skepticism with the perception of the location of the source are examples of this. One of the main arguments for causal vagueness is that most of the information that allows us to identify the source is in the context and not in the sound itself. Chion uses reduced listening analysis of the sounds to argue that in most cases there's no isomorphism between the sound forms and contours, and the forms of the vibrating body or the motion that produced the vibration. (2553) And also argues for the difficulty in spatial localization of sound sources based on the acoustical distribution of sound waves in an environment and the ambiguous directional qualities of so and so frequencies in such and such acoustical architecture. (2416) There's an insistence in treating sound perception as an isolated function of the body. Once again, this seems appropriate for the types of arts Chion is dealing with, that uses acousmatic sound, or a soundtrack artificially synched to moving images in a fixed frame, but demonstrates the limitations of his theory.

For Chion, the notion of causal vagueness opens up creative possibilities. The vagueness relates to the "real" source of the sound, in place of that, it makes way to imaginary sources, the so called "figurative listening", which is a fertile field for both *musique concrète* and cinema (for instance the technique of folley is completely based on this principle).

5 Conclusion

In this paper I have exposed some of Chion's ideas concerning representation through sound, compared them with Schaeffer's ideas exposed in his *Traité* pointing to proximities and divergences, and tried to put a light and criticized what I have been calling the type of materiality of sound that Chion defends. A materiality that's largely based on a Schaefferian view of perception but that is free from his aesthetic prejudices (e.g. rejecting

sounds with evident causal relations), is not interested in constructing a musical system and needs to be able to deal with narrative and representational works of art.

I have pointed that this materiality, being based on an idea of an original level of sound, continuous, of undiscernible forms and contours, brings some limits to his thinking. To illustrate, some other kinds of sonic artwork to which this theory doesn't seem appropriate, for instance: in sound sculpture the materiality seems be intrinsically connected to the concrete object that produces the sound, the body that vibrates; in a sound installation the materiality could be inseparable from the place where it sounds. Therefore, Chion's theory seems to be restricted to the sound arts in which sound can be transposed from a space to another and which the sound source has some level of neutrality or generality, like a loudspeaker or a traditional musical instrument. These conditions seem to be fundamental for that materiality which preaches a sound matter that exists by itself and function as the basis to constructed perceptions. In these other contexts (sound art) sound cannot be understood as a sequence of forms evolving in time that will then be codified to linguistic signals or indices of an event. If we force that view of sound in one of these types of works they might not make any sense at all.

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12. The pre-apparatuses in experimental music: implications for sound, technology and performance

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Abstract: The purpose of this paper is to reflect on the creative processes of the experimental music that explore the creation of technical objects. In order to analyze the relation between the poetic and methodological aspects of this kind of artwork I examine the conception of pre-apparatus from Vilém Flusser´s theory, seeking to emphasize the ideas of game and process. From this perspective, in this paper I also investigate relations between the conception of pre-apparatus and the media archaeology method as a way of creating technological discourses and performances.

Keywords: Experimental music, Technology, Pre-apparatus, Media archaeology, Performance.

1 Introduction

The purpose of this paper is to reflect on the experimental music creative process by exploring the concept of pre-apparatus from Vilém Flusser´s theory (2008). The aim is to analyze the type of relation that emerges between performer and technology in this context of artistic creation. The experimental music practices approximate to the notion of pre-apparatus when one looks at artworks that focus on the construction, reuse and transformation of sound devices.

Since 1960´s we have seen many artistic practices that are focused on the construction and modification of electronic devices by using methods that diverge in several aspects from industrial context. Industrial methods are based on a theoretical perspective that conducts de construction of technical products that have to be mass reproducible; while in experimental music, sonic apparatuses are handmade adapted or constructed in a process that includes chance operations. The process of creating an apparatus is susceptible to unpredictable events that might change the direction of the work. Moreover, procedures are often based on concrete experimentation of mechanisms and circuits which occurs in a sensory perspective.

In fact, the improvisation with electronic materials in order to construct apparatuses appears in this art context as a component of the own process. Moreover, these creative processes are frequently not carried out from rules and procedures that need to be strictly followed, but from general principles which can be recombined differently by each artist. By modifying a sonic apparatus the musicians can explore new types of sounds and gestures, allowing a direct contact with the mechanical or electronic systems. The objective of this process is focused on finding different sounds that emerge by chance

from the discovery of alternative connections in the system. In this way, we can observe a point of rupture in which the original functionalities of a system are displaced from their universal use into something singular that can be connected to the body and its perception mode.

These creative processes point to the exploration of sound technology into modes of operation not yet imagined by society. However, what is exactly behind this kind of technical operation? Why are there artists interested in making their own apparatus and also deconstructing industrial devices in order to invent new technical and performative possibilities? These questions are not simple, and the answers could be explored from different perspectives. Nevertheless, I think that a possible key for the theme can be found by a more profound comprehension of the conception of pre-apparatus in Vilém Flusser´s Theory.

2 The apparatuses and the pre-apparatuses in Flusser´s theory

As stated by Vilém Flusser, the apparatus can be understood as a post-historical technology that differs from tools, as it operates on the universe of symbols and codes. Whereas the tools are related to the objective of changing the world by informing the matter and other natural objects, the apparatuses work as symbolic machines, influencing predominantly the production, transmission and storage of information (Flusser, 1985). Tools are related to mechanical and productive activities while apparatuses are machines which the main function is connected to the mediation between memory and concrete world.

The apparatuses differ from other machines as they carry inside their black boxes scientific knowledge that was stored in an arrangement capable of automatically processing information, converting abstract data into concrete visual and auditory information. Thus, the apparatuses result from a materialization of complex knowledge that was applied in their circuits and functions, and they do not change the world mechanically, but symbolically. So, the final product of an apparatus is a sign, as they were mainly made for processing images and sounds. In this way, an apparatus has the objective of converting abstract information into signs that will reach our sense and memory.

The matter concerns the role that the apparatuses develop in what Flusser called the post-historical society, which is characterized by the presence of the technical mediation. The fact that the apparatuses are capable of doing automatic calculation in order to process abstract information into images and sounds make them different in many aspects from other kinds of technology that preceded the industrial revolution. In this way, audiovisual apparatuses are considered by Flusser as a specific type of technology, because they interfere directly in the way by which the process of imagining happens.

Nevertheless, despite Flusser emphasizing the arrival of audiovisual apparatuses as a result of the industrial revolution, he also recognizes that it does not mean that technology transformation corresponds to an exactly sequential development within a linear historical process. Rather, the subject is treated from the "different kinds of distancing from concrete

experience" (Flusser, 2008: 7). In this way, apparatuses are related to what the author called the five rungs of the ladder that humanity has climbed step by step "from the concrete toward higher and higher levels of abstraction" (Flusser, 2008: 6).

A deeper reflection on these different levels of abstraction is beyond the objectives of this text. However, it is important to highlight that according to Flusser the apparatuses involve the leap from the universe of the writing to the universe of the technical image, which can only exist due to the calculus operation carried out by them. In short, the apparatuses characterize the level of abstraction in which the society operates on current days, the level of the particles, the level of the zero-dimensionality, which can only be rendered visible and audible by machines that convert electric signal and digital data into symbolic information for our senses (Flusser, 2008).

Thus, in Flusser´s theory apparatuses are related to the production and transmission of audiovisual information, which is characterized by the automatic calculation of abstract data. Apparatuses are responsible for calculating what is running in the dimensionless space of electrons in order to display signs. In other words, they were created with the purpose of bringing the highest level of abstract information to the concrete world of human perceptions.

In order to do this, controllers fixed on the external surface of the apparatuses enable people to achieve certain results from the combination of their positions. The external buttons and levers attached to an apparatus are programmed to allow possible parametric combinations, which might be explored by the user. In a normal situation, it is only possible to produce variations from these controllers, since the internal circuit does not accept other kinds of incoming interaction. In such a condition, the final results are determined by the combination of these external controllers, and the internal circuit that automatically processes information is understood as black box.

Indeed, the black box itself constitutes the scientific knowledge that was placed in the logical structure of the apparatus. Black box can be understood, in this way, as the automatic part of the apparatus, which is not changeable, since the user can only operate it by combining the variations of the external controllers. Due to the complex dimension that involves the technicalities of a black box, it is reasonable to regard that this situation demands an effort towards a kind of knowledge that is not easily accessible for ordinary people.

So, what characterizes the apparatus is its property of automatically processing abstract information by means of the algorithms that composes its black box. Hence, apparatuses are not passive and the relation between them and human beings should be observed as a complex unity. Apparatuses not only express the human creativity but also model gestures and perceptions as a function of their programs. On the other hand, humans are not passive either, and wish to make these machines useful with the objective of producing audiovisual information which can only be achieved by the possibilities generated by them. It leads us to think this relationship as a dynamical interaction, because there are co-implications between both, since the apparatus and the operator form an entanglement, and neither exactly predominates over each other.

Even so, the automation of the apparatus´s functions causes consequences in this relationship, since it decreases the possibilities of interaction. The intentions of the users may be much reduced by the automation of the apparatus´s functions, because it may not leave available a variety of options, decreasing in this way the possibilities of making decisions. Thinking in this direction, it is possible to affirm that the highest the levels of automation are the lowest will be the possibility of obtaining different results. Despite this problem being more present in automatic equipment, it is not altogether absent in non-automatic or semi-automatic devices, since calculus, one way or another, is the main characteristic of the apparatuses, as emphasized by Flusser. So, the discussion on the apparatuses is that they operate by means of a type of calculation that was inserted in their black boxes, and as this cannot be modified, users do not have the conditions to expand the logical operations made by the black boxes.

Logically, one could obtain several results from the combination of levers and buttons which permits the exploration of different parameters and variations over the final result. This certainly leads to a diversification of the results. Even so, it continues to be only possible to work from the controllers externally available on the surface of the apparatuses, which rely on the internal processing logic. The calculation itself works as a repetitive operation. For this reason, Flusser argues that the apparatuses attack the users with their repetition. The users are always at risk of embodying the repetitive characteristics of any machine in their own gestures and body.

So, the programs do not operate exclusively in the apparatus, but simultaneously involve the user. The gestures, and not only them, but also the intentions of the users, are in this way a "function of the apparatus" (Flusser, 2011: 20). As addressed by Flusser (1985) about the photographer and the camera, the problem must be observed in this way: it is only possible to take photographs by using a camera, but a camera does not have the intention that allows the variation of the final result. It means that the photographer is as dependent on the camera as the camera is dependent on the photographer. Photographers have the skill and the perception that can guide the variation of the final result in a non-automatic mode. The intention is what allows human beings to freely act over the machine.

Considering this problematic relationship, the solution proposed by the philosopher consists in treating the apparatus as a toy with which the artist plays and produces new information. So, for Flusser, the apparatuses do not have to be seen as objects aimed at productivity; they should instead be treated as playable technical objects with which humans can act creatively. From this perspective, the philosopher presents an alternative to the apparatus by taking into account a regression to a state of continuous exploration. It is necessary to convert the apparatuses into pre-apparatuses:

> We must return to a pre-apparatuses situation if we want to assume a critical attitude when facing these new gadgets. It is not to save, of course, such archaic and condemned situations. But, from there, to throw ourselves against these gadgets in order to invert them towards our own freedom (Flusser, 2008: 90).

The pre-apparatus is not an apparatus because it was converted to a preliminary stage of operation, which aims to weaken the automation and put the human intention in the center of the relationship. This seems to emphasize that the pre-apparatus is a technical

condition which precedes the apparatus itself. Under this condition the black box loses its shield and enables variations in its inner properties. The Black box now can be explored. So, this is an imaginative and inventive process which involves a rich relationship between art and technology.

3 The pre-apparatus in contemporary art

In the early 1960´s, the South Korean artist Nam June Paik affirmed: "television has attacked us for a lifetime, now we fight back" (Paik apud Salter, 2010, p. 117). He was referring to the use of a set of televisions in his work "Exposition of Music-Electronic Television". In this work, Paik dedicated a specific space to place a set of second-hand TVs that were modified with the intention of distorting the TV programmes that were being broadcasted. According to him, thirteen types of technical variations were implemented on the TVs in order to transform their ordinary mode of operation. By transfiguring images and sounds in a medium that had just become popular at that moment, Paik conceived the idea of exploring TV not in its meaning, but as a sensory apparatus capable of generating temporalities. Television was treated as a multisensory apparatus that was "subjected to the nondeterministic force of electronic signals" (Salter, 2010: 117). He changed the operational mode of those apparatuses to make possible a new perception of the technological context that had just appeared. In this way, the public could experience the TV, feeling the constant presence of noise in the technical process that involves the production and transmission of audiovisual information.

The relation established by Paik with the technology seems to point to an imaginative manner of using televisual apparatuses, which explores the impermanence of the medium and the information transmitted by them. The apparatus was set in motion, and its ordinary use was expanded by the artistic intervention in its operative level. Since television broadcasting is not restricted to the TV device itself, because it involves a company which is composed of many sectors, the intervention made by Paik in the TVs circuits not only attacked the network but also revealed the subtle process of production, transmission and reception of audiovisual information. In this way, Paik interferes not only in the TV apparatus itself but also in the entire television broadcasting process. However, for us, what is important to emphasize in Paik's work is that the modification of the operative level of a machine interfered simultaneously in the performative level, causing the public to experience new symbolic possibilities that unfolded from the presence of modified apparatuses. Paik set the televisions into a pre-apparatus state, since it was not perceived anymore in its original functionalities, but as an impermanent object which started to reveal the ephemeral relation between information and noise.

Of course, the perspective of Nam June Paik is not an isolated case in the contemporary art, but it can probably be seen as one of the earliest experience in the field of electronic art. As it is well known, Paik was influenced by John Cage´s prepared piano. In this way, the prepared piano has a close relation to the conception of pre-apparatus, even if we consider that it is not an electronic machine, but a mechanical one. The interference in the piano´s strings produces a similar situation to Paik's TVs, since the concrete structure of the pianoforte, its mathematical and technical arrangement, is subverted by the insertion of daily objects that enable the production of complex percussive timbres which go beyond

the traditional music system. In this case, the preparation causes a deviation from the origins of the piano traditional operative mode, as this affects simultaneously the possibilities of sound generation.

Since 1960's we could observe the arrival of artistic tendencies that are focused on the creation of sonic apparatuses. The experimentation with electronic technology has been intensively explored from this time and many expressions have been coined to address the kind of process and also the characteristics of sound apparatuses that appear in this sphere of creation. Indeed, expressions like *hardware hacking* (Collins, 2006), *circuit bending* (Ghazala, 2005), *cracked media* (Kelly, 2009), *zombie media* (Parikka; Hertz, 2012) and more recently in Brasil the idea of *gambiarra* (Obici, 2014), refers to a kind of sonic apparatuses whose characteristics are related to instability and impermanence. In *circuit bending*, for instance, the process goes towards the transformation of an industrial sonic device into musical instruments. The methodological features here aim to produce a deviation in the operative arrangement of an industrial-made circuit, which is achieved by the exploration of new connections discovered by chance. *Cracked media*, in a similar way, explores the rupture of an industrial apparatus to introduce a performative attitude. The methodological approach invests in the recreation of apparatuses that were originally made for reproduction in order to set them as performative ones. The *gambiarra*, which can be observed in a wider range of technical-cultural practices, has something related to the adaptation of materials with the purpose of solving a problem or improving a device. However, in an artistic process the *gambiarra* becomes a methodological approach with which the operative arrangement of the apparatuses can be reconfigured in singular modes.

All these artistic processes, which involve the action of recreating apparatuses, take place in the operative level. The operative level is related to the characteristics of a machine which enables a temporal experience that can only be accessed from it. The operative level can be understood as an intrinsic function of an apparatus that can be reactivated every time it works. This perspective considers that, while in operation, musical apparatus can "short-circuiting the apparent temporal distance" (Ernst, 2013: 176) by the activation of its operative circuitry. Machines can, in this sense, produce a kind of reenactment which occurs in a technical level and not in a performative one, since it relies on the machine intrinsic potentiality. So, there are differences between the operative and performative levels because the first one occurs in the activation of a technical medium whereas the second takes place symbolically in body-cultural performance (Ernst, 2013).

4 The work on operative level

When one changes the electric or mechanical arrangement of a technical object it also means that the operative level of the system also changes. This change will consequently affect the information that a machine can generate or transmit. In the case of sound machines, the characteristics of the sounds and the controllers could be modified.

From the second half of XX century several artists have been dedicating an especial interest in working on the operative level of machines. Perhaps, the reason for this can be

observed in the fact that day by day it becomes more evident that in a digital context the operative level interferes intensively in the way we live and interact with others. All levels of life, in a certain degree, are mediated by electronic machines. Hence, machine programs determine possibilities of communication, production and exchange which are frequently not possible without them. Considering that machines are often configured by engineers and programmers, users are relatively subjected to the pre-determined possibilities inserted in their programs.

So, in XXI century, black boxes with pre-determined programs are mediating our hearing, gestures, sight, thoughts and habits, which are simultaneously modeled by them. As addressed by Agamben (2009), apparatuses are capable of producing subjectification process and can be understood as a *dispositif*, in the terms of Michel Foucault's studies. By extending the conception of Foucault's *dispositif* towards electronic devices, Agamben argues that the apparatus can be considered "anything that has in some way the capacity to capture, orient, determine, intercept, model, control, or secure the gestures, behaviors, opinions, or discourse of living being" (Agamben, 2009: 14). Agamben extends the conception of *dispositif*, frequently related to prisons, schools, factories, etc., to any material or immaterial technical object, considering also "language", "writing", "computers", "cellular phones", and many other technical apparatuses as "machine of governance" (Agamben, 2009: 20). The apparatus, in this way, "can be the place of multiple processes of subjectification" (Agamben, 2009: 14). The Apparatuses interfere in the subjectivity by capturing human beings in their mode of operation. They also separate human beings from the environment, since they capture the desire in another sphere: "The capture and subjectification of this desire in a separate sphere constitutes the specific power of the apparatus" (Agamben, 2009: 17). So, the apparatuses are connected to the body in a way that they have the capacity of producing subjectivities and modulate the presence of human beings in the space. Hence, the apparatuses need to be somehow changed in order to restitute what was separated by them. They have to be profaned, in the terms of Agamben, because this is an action which aims to set things back to a "possible common use" (Agamben, 2009: 17).

Like Flusser, Agamben questions the kind of relationship that people and apparatuses are composing together. Furthermore, they see a problem in the fact that apparatus somehow separates the bodies from their environment, placing them in a space of abstractions. This takes us back to Flusser´s argument about the ladder that guides human beings towards a highest level of abstraction, which has in the apparatus and automatic calculation its major characteristic. Indeed, they appear to look for an intervention in apparatuses in order to redirect them to the benefits of the user´s creativity.

In Flusser´s theory, this intervention is treated as a game in which the artist plays with the apparatus within the future society of players: "*ludus imagines* (play of the image) as *ludus tonalis* (play of sound) and the emerging consciousness of the power to imagine as that of *homo ludens* (man the playful)" (Flusser, 2011: 166). In Agamben, the intervention assumes the idea of profaning the apparatus to weaken its "power of governance", and also returning the apparatus to an ungovernable state: "…this problem cannot be properly raised as long as those who are concerned with it are unable to intervene in their own processes of subjectification, any more than in their own apparatuses, in order to then bring to light the Ungovernable" (Agamben, 2009: 24). So, if we consider these two

viewpoints as a reflection on the relation between apparatuses and bodies, it is possible to notice that the strategy that was described by both authors considers a new attitude towards the operative dimensions of the black boxes.

In any case, what is on the focus is the excavation of the apparatus. For this reason, the perspective of this text points to media archaeology's researches as a method for artistic creation, since this area of knowledge has a special interest in uncovering the epistemological layers that compose an apparatus, with the objective of understanding its operative regime. In this way, the media archaeology method is based on an intensive gaze at the microtemporal modulations generated by machines. The method has been comprehended not as a process of digging the origins of technical objects, but as an excavation that goes inside them in order to investigate their epistemological regimes (Parikka, 2012). Indeed, media archaeology concerns the investigation of the epistemological context in which operative media produces social interconnection. The approach focuses on technologies that deviate from the linear historical perspective, and because of this has a close relation to imaginative and inventive processes. In this way, the media archaeology theory deconstructs the notion of linear evolution of technology, since it reveals technical possibilities that are beyond the conventional point of view. So, media archaeology does not see technology as a result of a historical linear development, but as concretization of epistemological objects of knowledge (Parikka, 2012: 36).

There are relations between media archaeology researches and contemporary artworks which explore new ways of practicing the technological creation (Parikka; Hertz, 2012). In this sense, the media archaeology theory can be applied as an artistic method concerning the idea of exploring technology with the purpose of creating new sound and visual machines. The perspective may vary from works that bring old apparatuses to a new imaginative process until works that focus on the creation of new technological possibilities. So, media archaeology can be understood as an artistic method which aims to dig black boxes to comprehend their epistemological layers and also to produce different perspectives about media and technology.

Considering the application of this approach in a practical context, artists can work inside the apparatuses and experience technical creativity while constructing their own systems. They can direct the apparatus towards their own objectives. This practical excavation method aims to build different relations with the apparatuses, and does not see the technical object as a pre-determined thing. Instead, the intention is to find ways of creating technical apparatus from procedures that do not rely on the formal engineering, but work from alternative knowledge and approaches. Circuit bending is a case of this kind of procedure, since its creative process emerges from a reverse engineering (Ghazala, 2005; Parikka and Hertz, 2012). Working from an opposite perspective than the industrial one, the circuit bending creative process starts from an industrial object in order to deconstruct and transform it into a performative sonic apparatus. The concept of cracked media (Kelly, 2009) also explores the possibilities of using obsolete sonic apparatuses of reproduction in new modes, approaching objects and bodies in a performative way. We can also find similar approaches focused on works with digital media.

As addressed by Parikka and Hertz (2012: 428), the obsolescence of a black box is related to its condition of "single punctualized object". As a "punctualized object", black box

is "simply used and not understood as a technical object", because it is operated only by its input and output and the internal processing is not considered. For this reason, black box is understood as a point inside a complex system, which can be discarded at any time when not working properly. Nevertheless, there are lots of black boxes inside other black boxes, since the apparatuses are formed by layers under layers, boxes inside boxes. Every apparatus is already composed by several small parts, but these parts are fixed and not connectable. So, by digging the layers and penetrating the black boxes it become possible to understand the operative logic of an apparatus. The apparatus becomes whiter.

The pre-apparatus is a deconstruction of the apparatus, a deconstruction of its restricted modes of operation. In other words, to find the pre-apparatus it is necessary to dig the apparatus and gradually uncover new possible regimes of interaction. In the case of experimental music, the objective is to explore new possibilities of sound generation and gestural expressions. So, within this excavation method the automatic layer of a technical object can now be modified by the musician, who is no longer limited to the encapsulation of the circuits. The technical object becomes dynamic and the entanglement composed by it and the musician expands beyond the limits of a "punctualized object". The pre-apparatus is not considered as a single object anymore, but as a net of connections.

5 Technology as assemblage

At a first glance, the pre-apparatuses can be defined as a kind of technical object that allows the musicians to spontaneously play with them, subverting the limits of their black boxes. In this way, it is essential to consider the kind of relationship the musicians develop with the apparatus. This is the case when Flusser points to the relationship between photographer and camera: by playing with the camera, the photographer can explore its potentialities to lead the act of creation beyond the edges. The creativity, in this case, lies on the kind of relation the artist develops with the apparatus. The motion towards the *homo ludens* is the necessary condition to make the pre-apparatus emerge from the apparatus.

However, in the excavation proposed by the media archaeology artistic method, there are situations in which the pre-apparatus emerges from the intervention in the operative level of the apparatus. It means that the apparatus is going to a preliminary stage in which its mechanisms and circuits start to be adjustable. In this case there are consequences for the functionalities of an apparatus which actually changes its characteristics of producing the final result. This is a more radical view of the idea of pre-apparatus, because it implies that the machine and its sonic capacities were set in a condition in which it is no longer encapsulated and locked in its black box, but exposed. This condition is also a condition of experimentation with technology and sound. The structure is abandoned and the apparatus becomes a place subjected to transformations.

The intellectual and abstracted context in which an industrial machine is normally constructed was substituted by a playful situation. This means that the sequential procedure which aims to construct a finished technical object was replaced by a vision that

considers technological creation as a work in process. In this sense, the exploration of the technical possibilities does not form a closed structure anymore, but an assemblage of materials and concepts. The apparatus becomes something like a sculpture. This view put the technology in motion, and does not appeal to extremely precise aspects, since it is based on procedures which embody indetermination and chance.

The pre-apparatus can be seen from this perspective as an operative assemblage, and the notion of game was extended to a kind of improvisation that begins from the combination of materials, electronic components and theoretical schemas. Instead of rigid structures, what emerge are pre-apparatuses whose materiality is composed by singular levels of subjectivity, discourses and intentions. This leads us to the idea of dynamical assemblages that can be assembled and disassembled with the purpose of exploring relations between body, space and perception. From this point of view, the conception of pre-apparatus concerns a kind of relation with technology that happens from the possibility of combining pieces to make a whole.

This demands, of course, an increment in connectivity. So, in the context of experimental music creation, the idea of pre-apparatus can be related to the idea of connectivity, since the process of assembling electronics becomes a kind of inventive game whose purpose is the creation of flexible pre-apparatus. The pre-apparatus, understood here as an open and suitable technology, would not be exactly a single object. Instead, it becomes a set of several components which can be combined according to the intention of the musician. The combination of the parts is relatively open to variations. Therefore, this set of connectable pieces now enables a playful activity with technology, since this no longer configures a finished product, but rather something technically changeable.

6 The pre-apparatus and the performative level

I shall now return to the conception of pre-apparatus considering the specific field of musical performance. In this context, the intention of digging the apparatus in order to uncover the pre-apparatus is very symbolic, as it reveals a position against the limits of a sonic apparatus. Moreover, in electronic experimental music the goal is the performance, and the performative and operative levels cannot be separated. They form a single space in which the body meets the pre-apparatus to explore its potentialities. This concrete space is based on sensory acts, since the objective is the exploration of new perceptions and temporalities.

Thinking like this, we can now consider that in an artistic context what is in focus is the possibility of creating with the sensory system. In this way, machines not only extend but also modify our perception and this is the game whereby art flows. Like language, electronic devices are apparatuses (*dispositif*) that mediate our reality and by which we imagine and listen to the world. So, the exploration of the pre-apparatus in experimental music aims to produce new regimes of perceptions, using all kinds of components to achieve this purpose. The conception of pre-apparatus demonstrates that there might be alternative ways of constructing sonic devices that do not respond directly to an abstract and pre-determined perspective, but are constructed gradually within a process of singularization (Guattari, 1995). These machines do not result from a universal theory of

music, but from alternative and singular backgrounds which were gradually built in relation to the concrete world.

Considering these aspects, we can see experimental music inside what Felix Guattari (1995) called new aesthetic paradigm. The philosopher asks us to abandon a mechanist vision of the machine in order to achieve a conception that encompasses several aspects. Within this perspective, the machine must be considered in its "technological, biological, informatic, social, theoretical and aesthetic" aspects (Guattari, 1995: 107), which are integrated in a single assemblage. In the new aesthetic paradigm, the artistic process becomes essentially important due to its capacity of leading the creation of new coordinates to extremes:

> Patently, art does not have a monopoly on creation, but it takes its capacity to invent mutant coordinates to extremes: it engenders unprecedented, unforeseen and unthinkable qualities of being. The decisive threshold constituting this new aesthetic paradigm lies in the aptitude of these processes of creation to auto-affirm themselves as existential nuclei, autopoietic machines (Guattari, 1995: 106).

In the experimental music these processes of creation occur at the same time in the operative and performative levels, which are touching one another. In this sense, we can say that experimental music focuses on the world´s concreteness, but it does not ignore the abstract and symbolic elements because they are embedded in the entire process. There is a balance between these two poles, which allows the creator to operate the knowledge in a practical and sensory way. Machines are not only composed by concrete elements but also by abstract ones. It means that the abstract elements running inside machines in the form of codes will be converted at the end of the process in semiotic elements for our senses. All the activities performed by a machine were created, in one manner or another, with the purpose of feeding our perception and memory.

During the performance the artists are integrated to the machines and the machines operate as part of their bodies. Machines are not only extensions but also modifiers of our sensory apparatus. So, artistic performance takes this integration to extremes in order to promote inventive processes which propitiate new modes of perception and consequently new forms of being. Pre-apparatus, as a variable process of connecting and expanding bodies towards the machines, allows artists to freely integrate themselves in a complex assemblage whereby the sensory performance happens.

The electronic experimental music is related to the creation of concrete sounds which emerge from electric energy or from data manipulation in computers. Electronic apparatuses mediate several levels in this process and the musicians rely incessantly on them to achieve the performance results. Influenced by many artistic manifestations, such as performance art, electroacoustic music, free improvisation, video art, media art, and others, the experimental music can be seen as a hybrid art expression. From this perspective, the presence of pre-apparatus is an important part in the creation of concrete and pre-musical sounds in the performance, because these weird sonic machines were made with the intention of not producing "notes", but noises and textures.

Traditional music happens from pre-determined and abstract signs which guide in a certain level the performance. Similarly, traditional musical instruments were built to operate from

these signs. For this reason, traditional western instruments contain mathematical models that were inserted in their structures in order to make precise the characteristics of the sounds that will be played. We can say the same for commercial keyboard synthesizers or other popular sonic apparatuses, since the disposition of their circuits is also a storage of abstract models.

Evidently, other types of sounds that do not correspond to the western codification system can be made available with the use of extended techniques. However, despite this being often possible for an acoustic instrument, which directly reacts to mechanical gestures, in electronic and digital context we need to consider the operative level, which calculates the relation between the gesture and the final sounds. So, in electronic and digital systems, the gestures are very dependent on electronic interfaces and also on circuits and codes that map and convert the motion into parameters that cause the final sounds. It means that, in a certain level, the gestures cannot be modified without the modification on the operative level.

By modifying the operative level of a sonic system it becomes possible to explore new sounds and gestures in order to make them performative. The creation with sounds, gestures and machines compose a hybrid process whose purpose end up in a sound performance. In this way, all levels of this organic-electronic-digital system can be seen as the machine itself. There are no reasons to see the operative level separated from the performative level, since the technical exploration is directly connected to the perceptual dimension.

Furthermore, in experimental music the search often seems to be for sounds that are essentially "molecular" (Costa, 2013), pre-structural, which are frequently discovered through gestural experimentation with the pre-apparatus. Indeed, we can say that even the acoustic instruments are also converted into pre-apparatuses in the context of free improvisation, since the experimentations approximate them to toys. From this perspective, experimental music would have something close to the free improvisation, since both modes of creation seek to make available new orientations to gestures and sounds, which happen through extended techniques or prepared instruments. So, we can consider now a certain relation among concrete (pre-musical) sounds, free improvisation and the pre-apparatuses, because all these elements lead to the idea of a prior state in music, which is also a state of pre-meaning and bodily presence. It is a kind of return to a musical dimension which is not closed in abstract signs yet, but opened to an instantaneous perception of the relation between sounds and machines.

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13. An archeology of presence in voice studies and the Concert for *Voice (Moods IIIb)* by Maja Ratkje

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Abstract: This paper discusses the relationship between *Archeology of Knowledge* (1972) by Michel Foucault and the apparent dichotomies between presence and mediation, written and oral culture in voice studies. The *Concert for Voice (Moods IIIb)* (2004-2006), by Maja Ratkje is analysed to investigate discursive formations on the poetics of voice. Based on a possible archeology of voice studies, I present a sonic analysis and a textual interpretation related to the identification of dichotomies found in discourses about voice in terms of aspects of presence and mediation, in the way these aspects are integrated and managed within some poetics of the voice. In the sonic analysis, manipulations of the vocal apparatus in the concert provides examples of species of "vocalic mediation", because in this work the voice performance and the presence of the body are mediated by the voice itself as a *vocality*, since there is no conventional text-setting. Thus, takes place a *vocality* obtained before any semantic meaning, full of multiple complex sonorities, vents and air flows, guttural sounds, groans, creaks and cries of cartilage cavities, flesh and blood, that constitute the vocal apparatus. This study indicates some questions about how the historical silencing of the voice as evidence of sensuality and corporeality is enthroned in the way we interact performance, body, sounds and technologies, revealing repressions, binarisms and dualisms between body and machine, sound and sense, presence and physical absence, mediation and immediacy of voice. Investigate the presence of the voice in the current technological context is to study how vocal composition is being done at the border between human and mediation and how the notions of presence, language, body and voice are consolidated in the contemporary vocal *logos*.

Keywords: Archeology, Concert for Voice, Maja Ratkje, Media Studies, Musical Analysis, Voice Studies, Presence

1. Introduction

This paper discusses the relationship between *Archeology of Knowledge* (1972) by Michel Foucault and the apparent dichotomies between presence and mediation, written and oral culture in voice studies. The *Concert for Voice (Moods IIIb)* (2004-2006)[1] by Maja Ratkje is analysed to investigate discursive formations on the poetics of voice. Based on a possible archeology of voice studies, I present a sonic analysis and a textual interpretation related to the identification of dichotomies found in discourses about voice in terms of aspects of presence and mediation, in the way these aspects are integrated and managed within some poetics of the voice.

The concert is made for amplified voice and orchestra (in this case, a sinfonietta), and presents a specialized set for percussion (see instrumentation in the score attached). It is the third part of a series called *moods*, based on the harmonic *spectrum of C*. The composer merged vocal improvisation with spectral composition[2] in the instrumentation of

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[1] To listen the Concert go to ratkje.no/2007/11/concerto-for-voice-moods-iiib/
[2] Spectral Music was developed in Paris by composers such as Gérard Grisey (1946-1998) and Tristan Murail (1947) as the search for a sound expression in itself. One of the techniques used in spectral music is to create with the harmonic

the orchestra and employed extended techniques both in voice and instruments. For the part of the voice, Ratkje creates a kind of sonority widely used in sound poetry, with aerated sounds, rumors, screams and guttural noises. The concert seems to offer a rich material for an analysis of the aspects that I want to emphasize about the *archive* of the voice, within the studies and discourses produced in the field of the poetics of voice.

First of all, I want to draw a relationship between the *Archaeology of Knowledge* (1972) by Michel Foucault and the studies of orality and phenomenology of voice, understanding the latter two as being part of a *positivity* that produces discursive formations about voice, language and presence in the studies of voice and within the poetics of voice. After that, I investigate the discursive formations about presence that are formulated on the role of voice within Derrida's deconstruction of phenomenology of voice. I also make reference to the review of Adriana Cavarero in the book *For More Than One Voice* (2005), that verses about the character of sound abstraction and physicality of the voice in the contexts of philosophy, linguistics and voice studies in the twentieth century.

The broader objective of this research is to investigate how certain contradictions are produced within the discourses about voice regarding the concept of *presence* and, in addition, a intend to characterize how these dualities, failures, binarisms and discursive contradictions are articulated within the vocal poetics. I question how the historical silencing of voice while evidence of sensuality and embodiment are enthroned in the combination of vocal a n d instrumental performance along with some technological apparatus, revealing repressions, binaries and dualisms between body and machine, voice and sense, distance and intimacy, presence and physical absence, mediation and immediacy of the voice.

A possible archeology of voice would critically analyze the discourses constituted to describe the role that voice establishes in the relationship between the presence of the body and the meaning of speech, in addition to investigating how the voice materializes itself in different records and media. The method could reveal our reception or denial of voice strictly as sound and vocality. But also, the latter two conditions (of presence and meaning of speech) have a lot to tell us about the current creative panorama of vocal poetics, on subjection to what our vocal condition historically suffered and suffers already under the influences of this *archive* which involves voice.

Meanwhile, the connection of voice with the types of mediations in its various levels and gradations reveals different approaches or distancing of the body and the materiality of media, according to the means, such as the primary use of the manuscript, the song, the magnetic tape, the digitized voice, the voice mediated and amplified by the microphone or transformed by live electronics, etc.

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spectrum of sounds by analyzing them throughout sound samples called sonograms, which clearly indicate the internal organization of partials and its evolution in time. This line of contemporary music explored the timbre and the physical characteristics of sound as material for musical composition, a demand that was slowly manifested in the history of music from Claude Debussy (1862-1918), passing Anton Webern (1883-1945), Edgard Varèse (1883-1965), György Ligeti (1923-2006) and especially Giacinto Scelsi (1905-1988).

2. For a possible archeology of voice between presence and mediation

The positivity of a discourse about the voice would be the unity that affirms itself in a discourse made up of dualities, failures, projections, paradoxes and how these flaws and contradictions "enunciate" themseves through hegemonic discourses. According to Foucault (1972:127), the positivity plays the role of what would be the *historical a priori*. It is the plot that connects the field of formal identities, thematic continuities, transaction concepts, in addition to works, books and texts, and creates a network from one author to another. For example, the history of the *a priori* of grammar is not the history of reason, neither of the mentalities in the field of language, but the set of rules that characterize this discursive practice (*Ibid*em).

In this sense, the *historical a priori* is not a condition of validity for judgements, but the conditions of emergence of statements, the law of their coexistence with others. It is not necessary for the archeologyst to deduct from the writings and facts, or seeking the truth of an assertion, a theory, a statement. Otherwise, the way to investigates an *a priori* discourse is by capturing the statements in their dispersion, camouflaged under the great speeches of great stories, in all the flaws opened up by their non-coherence, (Foucault, op. Cit.:127).

This research reveals that the discourses about voice feature extremes and radicality: or mute and completely relegate the voice as a sonorous phenomenon, focusing on the association talks with the semantics (and not the actual vocality of voice); or otherwise, in a opposite way, enter the rebellion of the vocality, the ways of animality, pleasure, noise, in protest against the language, the voice as meaning. This polarization seems to point to a "blind spot" on the inconsistencies of these discourses, which is of supreme interest in archaeological research. These "open failures" of the voice's *historical a priori* seems to serve as fuel for the creation of artists interested in mediate such polarities between voice, body language, music and technology.

The apparent duality between corporeality and meaning of language brings us to works[3] that demonstrate a boost towards the body's vents, to the guttural sounds, the sounds of vocal hollow, the mouth, the exacerbated pronunciations, in open challenge to the areas that language and writing imposed on the body and the voice, as well it is assumed. The concert for voice use various manipulations to incur these types of vocalitily, but also points to a use of voice in direct relation to the instruments of the orchestra, merging spectral composition with guided improvisation.
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Over five (5) years of research on the voice in modern and contemporary poetics, I realize the construction of conceptual assumptions about the relationship between voice and the writing, so that the conception of what is voice undergoes a polarization over its history: on the side of philosophy the voice comes to mean, according to phenomenology, language, or verbal content with semantic meaning, or *phonè* as phonetics. From the point of view of

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[3]For exemple, Henri Chopin, Isidore Isou, Georges Aperghis, or Dieter Schnebel. Listen to Henri Chopin's *Vibrespace* (1963): www.youtube.com/watch?v=B7BKD66Q90A

oral studies, some voice poetry as sound poetry come to redeem all that refers to the body, to a voice made of meat and breath of life; a single voice of a subject that resonates with other parties of the sensory side of the *phonè* while sound.

I initially approached the paper *Orality and Writing: A Review* (2006), by Ana Maria Galvão and Antônio Augusto Batista, in which the authors reveal the basic bibliography and a review of the apparent dichotomy between oral and written culture. The first group of references presented by the authors include Marshal McLuhan, with *The Gutenberg Galaxy* (1972), Levi-Strauss, with The Savage Mind (1972), Jack Goody and Ian Watt with the paper *The consequences of literacy* (1963), Eric Havelock with *Preface to Plato* (1997), Walter Ong, with *Orality and Written Culture: the technologization of the word.* (1982) and Paul Zumthor with *The Letter and the Voice* (1993).

In my studies at the Masters, *I approached the books Scripture and Nomadism* (2005), *Introduction to Oral Poetry* (2010) and *Performance Reception and Reading* (2007), by Paul Zumthor. In addition to the above texts, I focused on the conceptions of sociolinguistics concerning the statement-enunciation studies and performativity (M. Bakhtin (The Discourse of Genres, in: Theory of Verbal Creation, 1997), VN Voloshinov (La palabra en La vida La palabra y en La poetry:. hacia a sociological poetics, 1926), É. Benveniste (General Linguistics Problems, 1976) and O. Ducrot (Space of a polyphonic theory of enunciation, 1987) and in the panorama about *enunciation* made by Gilles Deleuze and Felix Guattari in *A Thousand Plateaus*, Capitalism *and Schizophrenia (1995), Vol.2*, entitled *Postulates of Linguistics.*

At the PhD I have currently researched around concepts of voice in authors such as Paul Zumthor, Steve MacCaffery, Roland Barthes, Jacques Derrida, Adriana Cavarero; but in authors that studied presence such as Hans Ulrich Gumbrecht and Jean Luc Nancy.

For this paper, I observed more closely the writings *Scripture and Speech* and *The Utopia of language*, by R.Barthes, *The Zero Degree of Scripture* ([1915];1971), *The Voice and the Phenomenon* (1967- 1994), by Jacques Derrida, especially the last chapter: *The Voice that Guards Silence.* I present a third perspective with the review of *For More Then One Voice - Toward a Philosophy of Vocal Expression* (2005), by Adriana Cavareiro, in order to seek suggestions on how to bring back the valence of the sound of voice within the speech, just as the semantics, but not formulate discourses that create a false binarism between voice and sound or voice and language. It was this last literature review that pointed out the possibility of making an analysis of the Ratke's work.

3. Studies of orality and writing: a history of voice?

Theories discussing orality and writing seem to offer a consensus that the introduction of writing in primary oral cultures caused profound changes in aspects of social and cultural life in all of them. The writing would be the first technology of word and would be succeeded by the press and the computer. (ONG, 2002: 80). The criticism that befell on such theories claims that there would be a dichotomy between oral and written in these studies that associate abstraction, the visual, the long-term memory and serious study to

writing culture and, on the other hand, the sensuousness of sounds, cognitive concreteness linked to ephemeral and contextual learn to oral cultures.

In the chapter *Poetic Oralitys* (2010: 30-31), Paul Zumthor presents the modes of researching this voice, modes that take place in oral poetry. The author lists the ethnologists studies on popular poetry and song and the role that writing and the media have on vocality. Zumthor indicates that in the study of oral poetry would happen a alternation between reception and transmission that in writing is more contestable. The spoken word would make clear the condition of the subjects, would give the state of authority and law to the speaker, which is why absolution and condemnation are officially pronounced out and loud on the court testimony.

Zumthor (2010: 36) states that there are four species of orality or cultures between orality and writing: the primary is *pure immediate*, without contact with the writing; the second, an orality that coexists with writing, would be divided into two types: a *mixed orality*, with external influence of writing (as would happen with the illiterate in a written culture), and a *second orality*, which is (re) compose from writing in a literate culture; and finally a fourth, t h e *mechanically mediated orality*, differentiated in time and space, and that which currently coexists with all the others, even the first. However, the author points out that the description induced by the opposition writing-orality would have a more categorical than historical character and that men of orality and writing coexist in each epoch.

There seems to be an "evasion" of the voice in writing consolidation as a mean of transmission, since there was a general tendency to worship the writing and not the sonorous voice as receptacle of knowledge. However, this dichotomous discourse between orality versus writing seems to tend to a partial look, which takes the written culture as an *a priori* of the education process, eliminating other perspectives and creating a "literacy myth". (Street apud. Galvão; Battista, 2006: 426). There would not be two opposing or chained mentalities in "evolution" of the oral towards greater ability of abstraction of a writing mentality; it is before, two mentalities that achieve the same objective by different routes:

> [...] The written speech becomes significant by lexicalization and the grammar, while the oral speech becomes meaningful through paralinguistic patterns. This conception would reiterate the "great divide". In addition, Street finds, crystallized in these studies, the notion that the written speech is "connected" and "cohesive", while the oral discourse is fragmented and disconnected (Ibid.).

One should also take into account the specific conditions of each historical moment in the movement of socialization of reading, as when making the book in the XII century, and just like in the relationship between publishers and the press in the Middle Age, because the written culture did not occur in a linear and homogeneous way, but through heterogeneous times, contradictory and particular to each culture (Id. Ibid.: 430).

Moreover, there is no such thing as a universal culture of writing among people, but variations of written cultures with different trends for oral, various oral cultures with different writing experience. Similarly, it is not interesting to us to create antagonisms between an abstract and objectively critical mindset in the rational level, manifested

through a written culture on one side, and on the other, a pre-logical mentality, magic, mythic, given in oral culture (Galvão; Battista, Op. cit : 425).

Another criticism related to these discourses is about the supposed character of abstraction, separation and fixation of words in writing. The oral culture itself would be able to generate behaviors associated with writing, as abstraction. This literature that suggests an oral-written duality still follows an evolutionary trend of the history of writing, using words like "primitive", "wild-civilized" and an ideal that puts writing as an indispensable element for the evolution of humanity and enjoyment of art.

The history would begin with a movement of oral poetry towards writing. But it is precisely the advent of writing that we take as the beginning of history and what now came to be called historiography: a written history of spoken words? The history is made by one who tells a written story, the narrator, or between the reciprocal vocal interactions between the speakers of the history? It will be "history" when we write or when we act, speak and talk? What duality is this between writing and speaking?

4. Voice between speech and writing: Derrida and the voice of transcendental flesh.

It is increasingly difficult to reconstruct the actor's presence buried under the historical sedimentation. The time of crisis is always the time of the sign.
Derrida

When reading the book *The Voice and the Phenomenon* ([1930]; 1994) by Jacques Derrida, we face an attempted of deconstruction of the presence's phenomenology of voice. The notion of *presence* is that what live in being, in one's consciousness of objects, of others and himself, an auto-affectivity of the silent voice of thought. The effect of the presence depends on the fact that it is involved in the structure of the speech as the speaker hears himself, which creates a double presence: the verbal signifier expressed in speech and the listening presence of the speaker, as pure self-affection of a voice that hear itself as speaking (Derrida, 1994 apud Cavarero 1994: 219).

> Derridá's basic thesis is that western meaphysival is essencially a metaphysics of presence – or rather that the concept of a pure and immediate presence funccions in metaphysic as the guarantee of an evident and necessary truth, and thus this concept of presence is "fundational" (Cavarero, 2005).

The spoken language is what connects us with the world and people. It is the first means of representation of the things that are presented to us in the world. According to Derrida, the language element and the element of consciousness of presence are difficult to discern and is exactly the *voice* that constitute this confused margin between language and awareness of the presence, what brings us to the problem of mediation – immediacy:

> But his indiscernibility [of language and consciousness of presence] will not introduce a non-presence and the difference (the mediation, the sign, return etc.) to the heart of presence itself? This difficulty requires a response. This response is called voice (Derrida 1994: 22, emphasis added).

Just ahead in the text, Derrida argues that this difficulty of separation of the problems of presence and mediation would not be an internal contradiction of phenomenology. The author describes the voice as a carrier of presence and of the history of spoken language, such as an "archive of dissimulation itself". Derrida writes about a phenomenology of voice in which the *phonè* occupies the focus of analysis of the presence in the world and while ontology of consciousness between presence and language. It performs a deconstruction of phenomenology of voice in which the *phonè* as presence comes into opposition to writing as trace.

> It is less surprising the tenacious, oblique and laborious effort of phenomenology to save the word to affirm a core tie between the *logos* and *phonè*, the privilege of consciousness (...) being but the possibility of live voice. As the consciousness itself appears in its relation to an object whose presence she can store and repeat, it is never completely alien or previous to the possibility of language (Derrida 1994: 22).

The most unique aspect of Derrida, according Cavarero (op. Cit.: 216, passim), lies precisely in the thesis about *phonocentrism* as an alleged privilege of speech against the scripture or *arche-writing*, of the *phoné* against the graphic sign. Derrida assumes this metaphysical tendency of the presence of *phonè* in Hussserl"s phenomenology of voice and positively affirms that this maneuver is due to the full philosophical elaboration about the difficulty in differentiating between presence and language; a strategy that would structure all Husserl's discourse:

> The required privilege of the *phoné* that is implied by the history of metaphysics, Husserl will radicalize, exploring all its resources to the most critical refinement. For it is not in the sound substance or in the physical voice, the body of the voice in the world, that he will recognize a source of affinity with the *logos* in general, but in the phenomenological voice, the voice in his transcendental flesh, the breath, the intentional animation which transforms the body of the word in flesh, which makes Körper one Leib, a seistige Leiblichkeit. The phenomenological voice would be this spiritual meat that continues to speak and to be present to itself - to hear itself - in the absence of the world. Of course, what is attributed to the voice is assigned to the language of words, a language made up of units - which were considered irreducible, indecomposable - welding the concept of meaning to the significant "phonic complex" (Derrida, 1994: 23).

Therefore, voice is taken while speech and phonetics, not as a sonic complex. The p*honé*, or the sound of voice, is "welded" phenomenologically as "meaning", while it is a tool of fixating ideas in its semantics.

"Aristotle says in the Poetics that logos is *phonè semantike*, signifying voice (Aristotle, 1457a-530 apud CAVARERO, 2005: 34)". And it is precisely this conception of phoné, of speech while discourse and semantics what distinguish man from the brute beast. In metaphysical discourse, the *phonè semantike* would define the existence of human beings as the owners of a voice, a self-awareness *logos*. Hence the ontological importance of speech as language.

The word *logos* designate these concepts confusion. As stated Levinas (apud Cavarero, 2005: 33) "(...) the logos as discourse is completely confused with logos as reason". The term oscillates between the realms of language and discourse, between speech and thought. Etymologically*, logos* derived from the *legein* verb, which means "speech" in the ancient Greek, but also "aggregate", "join", "connect" and "gather".

According to Cavarero, in its ordinary meaning, *logos* refers to the activity of one who speaks, of one who links nouns to verbs and to other parts of speech. *Logos* consists essencially in the joining together of the words (Cavarero, 2005: 33). That is, it is the "irreducible units" of phonetic significance that speaks Derrida.

Philosophy would focus precisely on this part of the voice: the meaning of speech, conceiving this as voice. It approaches the voice for its phonetics, its semantics, its consistency rules. The metaphysical philosophy refers to the voice just as language, a system of signification. According the review of Cavarero, this would be characterized as the de-vocalization of *logos,* as *logos* necessarily involves pronunciation, oral cavity, breathing. In other words, Cavarero (2005: 34-35) states that the history of metaphysics should be told as the history of de-vocalization of logos, because the scientific research about voice would approach voice just as an idea, a transcendental mental image.

5. Voices between speech and sound: multiple voices in Cavarero

Maybe we can point out the difficulty of the oral-written interaction in the history of philosophy and of vocal studies, and between voice and writing in phenomenology in particular. This would be characterized as a historical difficulty, and more than that, a contradiction positively valued in the history of metaphysics. This silencing of the embodied voice would be a problem that has to do with the philosophical affinity for an abstract and disembodied universality and within the domain of a word that does not effectively leaves no cavity flesh. (Cavarero, 2005:8)

The discursive tactic of silencing the voice constitutes a double gesture, in which the speech is separated from the speakers and finds its home in thought. It finds its destination in a mental meaning in which the speech itself, in its sound materiality, would be the expression in his audible signal.

According to Adriana Cavarero (ibid), with respect to voice corporeality and its uniqueness and relatedness, the subject of voice in modernity points a theoretical horizon at the same time promising and disappointing. Despite the voice have become an object of study in the twentieth century, approached by several schools of thought under the most different angles, the corporeal singularity of voice did not gain attention in this overview. For uniqueness, Cavarero want to name the characteristics of each voice as unique, different in each person (Cavarero, 2005: 9).

Cavarero does not delegitimize these studies in her criticism, but witnesses and certifies the ways in which forms of knowledge dedicated to speech phenomenon are able to focus on the voice as such without ever dealing with the prospect of the uniqueness of each voice. That is, the voice becomes a general sphere of sound joints in which what is not heard is, paradoxically, the uniqueness of the sound. (Ibid: 9-10)

The main objective of Cavarero in her book is the problem of "[..] thinking of the relation between voice and speech as one of uniqueness that, although it resounds first of all in the voice that is not speech, also continues to resound in the speech to which the human voice is continuously destined." (CAVARERO, 2005: 13). That is, think of voice simultaneously as speech and while all that is not speech: sound, gesture, history, context, emotion, action, etc.

Language is the first mediation of our presence as living beings. Apart from being a vehicle of information exchange, spoken language also has a sensory quality linked to pleasure, will and desire to talk, to "exchange ideas", or even seriously debate, inciting and scheming dialogues. Along the semantic and logical character of language, therefore, we are sent to their emotional condition of human interaction, full of passion, oaths, convictions, acquittals, orders, executions, pronunciations, resonances. For the author, what really matters is not how to think one pleasure policy that brings the relationship between politics and speech, but rather, how to think a policy that does not continue to purge the kingdom of vocal in speech. (...). In a sense, would be enough just focus on speech from the "voice's place" or vocal place (Ibid: 200).

An interesting feature of Cavarero's critics is that *voice* is claimed in his sonorous body, but the examples that the author brings in the text belong to an even canonical repertoire of traditional tonal hegemonic music of the West, such as opera and classical singing, or under a well-affirmed theatrical literature such as Shaekespeare in Romeo and Juliet, without addressing composers and minority authors who could offer a material that would be more alined with her investigation of the voice, such as sound poets like Henri Chopin, Isidore Isou, or even composers such as Georges Aperghis or Dieter Schnebell. Therefore, it seemed to me that it would be appropriate to make an analysis of works involving voice and creative processes that play with the border between meaning of speech and sensuousness of voice, as Maja Ratkje or Diamanda Galás, for exemple. When reading some descriptions of Cavareiro on voice as a unique sound of body breathers, I have a particular impression of being listening to the work of Maja Ratkje:

6. *Concert for Voice (moods IIIb)* by Maja Ratkje

According to Ratkje, "the concerto is the third part of a series of pieces called "moods", where the first piece, 'mono mood (S)', an electronic piece based on saxophone spectrum, was made in 1997." (Ratkje: 2007). The voice must be amplified with a microphone and sound along with the dynamic orchestra. The orchestral score is composed in detail, with precise indications of the desired type of sound at any time. for example, in some pitches, which partial of C is being played; or which different articulations are necessary.

Otherwise, t h e voice part follows a virtually open score with general directions for improvisation.

There are suggestions of some notes to the voice in a few passages, which happens often in unison with other instrument and when this occurs, the artist always wins sound texture including large noise load on the voice in some way and thereby differentiating and "texturizing" the unison. This happens, for example, where there is a sound indication "like viola" or with "squeeky". Indications of vocal moods in the score are, among others: *Improvisation with tiny mouth sounds - start imitating Viola, gradually arrive on high note*; *squeaky*; *whispers ad lib.; drow breath, improve; sound like wind instr. in the bar before; imitatin percussion; high pitched, thin sounds; interrupted hight pitched, childish humming-nonsense; add iterative, deep sounds; hoarse singing ad lib, active!; screamin heavy breathing; imitating Type Writer ad lib.; high pitched childish nonsense, among others.*
.
According to Ratkje, her place as an interpreter in this concert exceeds the conventions given to the voice singing a text. Not trained as a classical singer, she uses her voice through non-idiomatic ways, "based on experience and inspiration in free musical improvisation, electronic music and sound poetry." (apud. Albuquerque, 2016).

It is clear, in the Concert, the influence of her experience with the quartet *Spunk* along with three women musicians: Hild Sofie Tafjord on the horn, Kristin Andersen on trumpet and Lene Grenager on cello, for over 20 years. In an interview with Gabriel Albuquerque for the blog "Volume Morto" (2016), Ratkje says that even exploring different sounds with his voice since he was a child, it was with this group that she reached her full vocal ability, using voice as her main instrument. In this sense, it is perceived in the concert a treatment given to voice as an attempt to get a direct contrast or direct coherence with instruments; reciprocity or antagonism that she talks about in her review for the Concert on her website (Ratkje, 2007).

There is no text sung in the concert or even a narrative behind the voice sounds or any literary reference, but rumors, noises, screams, intonations. Thus, emerges a voice filled with multiple bodily sounds, vents and air flows, guttural sounds. For this use of voice as an embedded vocality within a musical genre historically organized as the "concert", this would not be a concert to sing the text according to a melody, but a concert of vocalities: a voice that "sings" itself. The sense of language, the text that would be sung, is occupied by the voice in her extreme physical and sound presence.

However, there is a metaphorical reference to the semantics and language in the concert, related to writing in particular, which is the *typewriter* in the set of percussion. It is also interesting to note that, except for its first entry, the typ e machine appears in some dynamic intensity valleys, in *piano*s after the major part of energy accumulation, when the sound leaves its intensity traces.

Here I would venture to do a reading about writing which I previously described within the bias of Derrida on *writing as trace* (or arche-writing), in contrast to speech as an emblem of a *phonocentric* domain. In this approach, the primary end use of the voice is this metaphysical place of speech, where she finds the meaning and language with semantics. The typewriter refers to writing as materiality of visual and tactile record of handwriting,

when typing the words in the page. But Ratkje plays with the sound of the typewriter and associates it with a voice that left the semantics, indicating a certain paradoxical irony about the dialogue between these two emblems: she uses the sound of the typewriter, not its contents while silent visuality of writing; and she composes with voice on a threshold between speech and sound. It all creates a vocality that is external to the musical code of the notes and closer to the mouth sounds and rumors, but still not as meaning in speech.

It is interesting that, at bar 104, after the first "tutti fortíssimo", follows a sudden piano with an aerated sound and th instruments that sound highlighted are the typewriter and a violin, with the two overlapping a base made of glissandos initially divided between woods (flute, oboe, clarinet and english horn), vibraphone with bow and tam-tam in the percussion, besides one saxophone and one acordeon that comes later.

Fig.1. Appearance of the Type Writer in bar 104.

This range drop serves as a sound atmosphere for the entrance of the typewriter, as if there remained only her, one violin and the voice, after the long previous combat growing noisy in which the furiously screams and the orchestra offspring rhythmic spasms.

The sequence after the "striking fortissimo" is that long audible dialogue between minimum and popped vocal sounds, along with typing and legato glissandos that vary under intervals of major and minor 2nds (C + B or Bb) in the wind instruments and percussion:

Fig.2. Legato glissandos that vary under intervals of major and minor 2nds in the wind instruments and percurssion

There is a kind of "struggle" between zoom in and out the presence of the voice, which sometimes is combined with instruments or plays imitating them, then draws the sound of the instruments into the inharmonic spectra of the vocal noise to find their own dissonance and beats, leading them to the threshold of the order of pulses and durations. This is the case of the viola and the cello at the beginning of the piece, whit the indication "extreme crush tone, as even as possible no pitch."

Ratkje says (2007) that the concert plays with the way the listener expects the orchestra is supposed to sound. There is no thread of a narrative and the piece as a whole seems to oscillate between different textural moments seemingly disconnected. But this obey an internal conduction of the sound of instruments and voice to the aspect of timbre, by subdividing the notes to a granular mass in percussive sounds. This happens between the instruments and with the instruments in a duel or fused with the voice.

The general thought of the piece is spectral, with manipulation of partials of C spectrum, but this does not happen all the time because not all of the pitches configure emphasis on certain partial of C or change the resonance of other pitches. Often, the texture is more percussive, and varies over short or minimal sounds. For example, at the bar 43 (at 3'26"), the celesta is melted at very fast attack in demisemiquavers with intermittent voice attacks, which completes the sound in terms of texture, but the sonorus vocal result has no clear harmonic content. This is clearly requested in the score in the note "imitating percussion" and appears in other passages with the expressions "start imitating viola" and "sound like wind instruments".

A timbre fusion takes place between the voice and the violins at bar 30 (at 2'36 "), but here the voice adds some noise to the tone, creating a mix between harmonicity and noise.

Fig.3. A timbre fusion takes place between the voice and the violins at bar 30.

The piece as a whole oscillates between intermittent percussive sections divided on different instruments, microtonal glissandi between voice and one or more instruments, percussive markings with *sforzando* between all instruments and long *legatos* in cross-glissando blending two or more timbre instruments.

Another feature of timbre change are the indications for cellos and basses: "*extreme crush tone, as even as possible*", or yet, "*gradually change into crush tone with some pitch*" and "*very ammount of pitch added gradually*", which clearly indicate a demand for a sound transformation between noise and pitch, considering a certain grain between the two.

Realizing all three tactics described: between percussive fusions, mergers of different timbres and a third between the two, belonging more to the order of the *grain*, the composer seems to exercise the contraction and expansion of the threshold between pulse, sound grain and pitch, a clear legacy of Concrete Music, as Ratkje affirms on her website (2007).

The idea of creating a concert for voice without a text and for a voice that do not sing, seems to find a way of treating the voice and the orchestra as a concrete raw material to be molded into a sound mass, with spectral strategies. This shows an interesting mix of the author's own poetic and biographical vocal elements with a more strict compositional school like concrete music or spectral music.

I think this is the meaning of the choice of the term "concert" for this work: a concert for voice while a *vocality in concert* (not a singing voice) that defies sound like an instrument; but also an orchestra that challenges the tonal instrumental architecture. A duel of voice with all the instrumental sound architecture based on pitched sounds and durations, under an architectural *a priori of sonority,* historically imposed over the voice and the instruments.

Ratkje seems to handle the huge distance between vocal rumors and an architectural-orchestral set of instruments. Perhaps this may correspond to the attempt to create a mixture, a voice 'blonde' or voice 'mood' (mood iii, as the sub-title) that can only be equalized with orchestral instruments when they are already "ripped" and partly mixed in spectral terms. That is, the voice is combined with the instruments within a certain "tonal failure" of herself and of the instruments, exploring a world of extra-tonal sonorities and extra-musical sounds like screams, grunts, litanies, minimum mouth sounds amplified by the microphone.

Final considerations

This research yields as an archaeological contribution on the theme of voice in my field of research and helps to unmask and dismantle some apparently preconceptions and binarisms common in the history of metaphysics and voice philosophy which cause confusion and distortion about what we mean by voice, what we make with it, what we produce with it and how we live voice. Invest in research on the semantic field between the sound and the meaning seems to uncover paradoxes and indicates a possibility to scrutinize the positivity of discourses through these readings and questions, but also indicate a practical extension of these readings through the possibility of an archaeological analysis of the works for voice which I purpose to investigate.

What I understand after doing this work is that the study who attempted to research the voice eventually describes a voice that tends to be widespread, a voice that is abstracted from any body, its cavities, the vital breath and sound, which is the root of speech. But there is also another radical opposite, that of orality as essence to be rescued as a kind of "true", of a primordial sensorialism that would save us from rationalism and logocentrism language. This radical vocality present in the body seems very suspicious to be taken as a bulwark because, as stated Cavareiro (2005: 210-212, passim), the voice has a destination and this destination is communication, the language, although it is rudimentary, the evidence of a babbling of a baby. The voice is addressed to the relationship with others through language, which opens the interaction of politics with the logos, with speech, with understanding.

The voice enunciates a sonorous body, but it also tracks what may make sense in relatedness with other people who have a *logos* and a voice. But we see that in the possibility of a "history about voice" or a "history of discourses on voice", the voice itself slips categorizations, is always another; it is a whole, or a hole, elusive as poetry, even if voice is a sound carrier medium of language, used for the definition of things. It is not only phonetic and not only sonic, but both. The voice is not the hegemonic metaphysical figure overlying written by a phonetics prevail, indicating the death of the written sign. However, it is also not a orality as such a source of signs, as something that precedes the language in a kind of "Adamic way". Voice does not need to be either taken or "returned" to what would be a "source" within a discourse of original-copy duality. It is a medium and its content, the

signification and significant, the oral and the written, speech and thought, and it is the presence and the absence.

Another issue that came up was the lack of an alternative to the critique of the abstraction of relatedness and of the voice caller's context in metaphysics and philosophy. What is necessary to bring context and interlocutors for the scene of vocality in the analysis of these works? How to put this elements of voice uniqueness and this politics of vocal relation in a musical analysis of the type of work that involves contemporary poetics of voice? At this point I believe that Ratkje biography is a point to highlight, as well as heterogeneous sound poets like Henri Chopin, Demetrio Stratos and Jaap Blonk. With Maja Ratkje as in this artists, it is not possible to separate one who speaks of what is said as they have their very particular personality express in their voices, with vocal approaches that are most impossible to be copied and reproduced.

Ratkje's Concert is a special case in this regard, because the way it was done with an open sheet music for voice is something specific to be performed just for her, that is, it is addressed to a person in a specific context, connected to the speaker and composer Maja Ratkje. This certainly says a lot in this context, although it is not something said in the verbal language in any form.

The unique value of the voice which Cavarero claims seems to be evident in the Concerto for Voice by Ratkje, which seems to find a vocal place within a panorama extremely attached to the text and singing literature, making this voice find a point between the sound and the speech of the mouth. It also plays with the sonic fusion with other instruments as timbre. This voice is partly addressed to the speech, but it can re-integrate itself into the sound and contextual elements (such as gestures, contextual uniqueness, ambiences, spaces) as a *phoné-vox*.

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14. Towards 'decolonized' listening – A sound ethnography of the Paul Bowles Moroccan Music Collection

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Abstract. In 1959, the US writer and composer Paul Bowles (1910-1999) traveled across Morocco to record as many examples as possible of traditional music on tape. The resultant *Paul Bowles Moroccan Music Collection* was an early attempt at cultural preservation by means of modern audio technology in Morocco. This paper proposes a cultural interpretation of this Collection in terms of specific *listening modes* and discusses responses by people in Tafraoute (Morocco) elicited in 2013 in the course of listening sessions with the Bowles recordings. It concludes with a reflection on more radically *decolonized* forms of listening and offers perspectives for future developments involving artistic research strategies.

Keywords: Paul Bowles, Morocco, Amazigh music, sound elicitation, sound studies, histories of listening, decolonization, critical sound practices, artistic research.

1 Introduction

In 1959, the US writer and composer Paul Bowles (1910-1999) traveled across Morocco to record as many examples as possible of traditional music on tape. Over the course of five months, Bowles managed to record 72 hours of music, comprising 250 examples from 22 locations all over Morocco and covering all the major traditional music genres such as Ahwouach, Andaluz, Gnawa, Rwais, and Jewish Sephardic music. The resultant *Paul Bowles Moroccan Music Collection* was an early attempt at cultural preservation by means of modern audio technology. In 2010, the Collection was digitized and repatriated from the Library of Congress in Washington to the American Legation in Tangier (TALIM), where it is now accessible for consultation. From the perspective of sound studies and sound art, the Bowles Collection is a remarkable case in the history of listening and recording practices. While a few other early Moroccan recordings do exist, e.g. by the ethnomusicologist Constantin Brăiloiu from the early 1950s, the Bowles Collection is remarkable in its size and scope, as well as in the diversity of the music genres that it documents. Moreover, Bowles was not an ethnographer, but an already established writer and composer with an expressed interest in sound aesthetics and avant-garde music practices. As an American expatriate living in Tangier since 1947, he had much experience of Morocco and clear opinions about Moroccan music and society.

My PhD in art and anthropology focuses on a re-interpretation of the Bowles Collection as a complex configuration of listening and recording practices. This includes situating it historically and culturally, along with returning some of the recordings to their place of origin in order to discuss them with local musicians. By extension, my goal is to explore new modes of listening in the form of sound experiments in collaboration with Moroccan artists, based on the auditory knowledge elicited by means of the Bowles recordings. In this article I want to focus on my field research in the town of Tafraoute in the Anti-Atlas region of Morocco in 2013, which I carried out in collaboration with the performing artist Zouheir Atbane from Casablanca. I start with an introduction to Paul Bowles's approach to

listening and recording for his music preservation project, and follow this with responses to his recordings elicited from people in Tafraoute in the course of listening sessions. I conclude with a few thoughts about possible future developments of this research towards more radically 'decolonized' forms of listening.

2 Paul Bowles's approaches to listening and recording in Morocco

Paul Bowles's notes and published writings about his Moroccan music collection allow us to trace back his sound practices and to describe them in terms of historically and culturally situated listening modes. The theoretical basis for this approach comes from Sterne's definition of the audio recording as a "medium" (Sterne, 2003: 182), rather than as just a *container* for whatever sound event that needs to be recorded. Sterne further defines the audio-recording medium as a "recurring set of contingent social relations and social practices" (*ibid*.) and a process that involves "a distinct practice of sound production" (*ibid*.). As such, audio recordings should not be considered as mere *reproductions* of sound events, but rather as the result of an operation aimed at "producing a particular kind of listening experience" (*ibid*. 246). He further suggests that "technologies of listening" (*ibid*. 92) – such as audio recording technology – "emerge out of techniques of listening" (*ibid*.), which are "assembled for the individual not by himself alone, but by all his education, by the whole society to which he belongs, in the place he occupies in it" (*ibid*. 91).

Sterne's concept of the sound medium allows us to approach Bowles's Moroccan recordings as representations of his own listening and recording practices as an amateur ethnographer, music collector, composer and writer. While his recordings certainly documented original music performances, Bowles's recording practices also resulted in a re-interpretation of these performances according to *his* ideas. As we will see, these ideas relate as much to Bowles's own experiences in Morocco as to his understanding of the sound medium as a means of achieving potentially transformative listening experiences.

2.1 The collector's ear

Paul Bowles's recording initiative took place in 1959 in the immediate post-colonial period in Morocco, following 44 years of French and Spanish colonization (1912-1956). After an initial visit to Morocco in 1931, he settled permanently in Tangier in 1947. So by the time he made his recordings in 1959, he had already known Morocco and Moroccan music for many years. Bowles submitted his proposal for the project to the Library of Congress in Washington in 1957, and it shows that his motivation was a desire to preserve Moroccan traditional musical traditions from the dangers he saw arising from the increasing modernization of the country and from the national cultural policies of the newly independent Moroccan state (see Schuyler, 2016). Once his proposal was accepted by the Library and its finances secured by a grant from the Rockefeller Foundation, Bowles started his preservation project without following any specific scholarly method. Instead, his plan was to record as many different examples as possible, an approach described by Schuyler as that of a "music collector" and "music lover" (see *ibid*.).

For my study of Bowles's sound practices, I propose using the expression "collector's ear" in order to describe a mode of listening that is concerned with the material appropriation of its sound object and with the possibility of organizing these materials according to one's own personal taste. Bowles's medium for recording traditional music performances was magnetic tape: he used an Ampex 603 recorder with an Electrovoice EV 654 microphone. "Like earlier collectors", Schuyler notes, "Bowles believed that his job was to 'capture' the sounds, a term he used frequently" and that it was "up to others to make sense of them" (*ibid.*). The idea of using modern sound technology in order to preserve cultural traditions from the dangers of modernization was not new. As a form of "salvage anthropology", it relied on a faith in the ability of sound reproduction technology to preserve cultures. For Sterne, the principle of "permanence" in sound ethnography was a "Victorian fantasy" (Sterne, 2003: 324) as "the performance itself was transformed in order to be reproduced" (*ibid*. 320). Bowles's notes attest to this approach on his part, as they contain very little information about the musicians, the song lyrics and the broader cultural and social context of the music practices he documented. Instead, they tell us a lot about the circumstances of the recording situations – thus about *capturing* the sounds – and about Bowles's personal appreciation of the music performances.

This *collector's ear* approach to recording results in a sound collection which has both a material and a symbolic value. While the symbolic value might be interpreted in terms of a (colonial) trophy and the personal prestige of the collector, the material value has implications that can extend beyond the collector's own existence with regard to issues of intellectual property, repatriation and public access to the Collection. At the end of Bowles's recording trip, his music tapes were sent to the Library of Congress in Washington in order to be archived. Parts of the Collection were published commercially in 1972 and 2000 and were re-issued in 2016. Today, some of the music tracks can be accessed and downloaded freely on the website of the Aga Khan Documentation Center at MIT, but the Collection is still not accessible in its entirety to the general public. The *collector's ear* thus raises questions about what exactly is being preserved through making such recordings, about authorship, and about related issues of property and access to the documents.

2.2 The arranger's ear

As Bowles was a writer and composer at the time he made his recordings, it seems apt to describe his music collection as an artistic "realization" of his own with a strong authorial character, and based on a creative use of recording technology. A study of Bowles's notes reveals important elements of such an approach. They contain a lot of information about technical aspects of the recording process, such as the placement of the microphone amongst the musicians. In some cases, this information is enough to reconstruct the recording situation precisely and to allow for a comparison with other recording practices of the time, such as studio recordings of jazz and folk music in America. By clearly expressing his preference for certain instruments and his distaste for others, and by taking the initiative during the recording in order to modify the balance between the instruments or by asking for unusual music interpretations, Paul Bowles did not hesitate to take the role of an *arranger* o r *producer*. In such cases, Bowles appears as someone who was not

approaching the field as a *passive* listener, but much more as an active agent who had to make sure that his recordings sounded *good*.

In his book "*Listen: A History of our Ears*", Peter Szendy describes the arranger as "a listener who writes and signs his listening" (Szendy, 2001). In my study, the *arranger's ear* describes a listening mode that is concerned with both the aesthetics of the recording and its effect on the listener. In the case of Bowles, this mode of listening is closely related to his aesthetic tastes, his conception of what makes a good recording and his self-appointed right to impose transformations of the instrumentation and performative aspects on the music he recorded. The potentially *affective* a n d *transformative* character of a listening experience also appears as a major preoccupation of Bowles. He frequently refers to "ecstatic" and "hypnotic" (see e.g. Bowles, 1960: 4B and 44B) mind states among the musicians and listeners during Berber music performances, and occasionally describes other affective states induced by listening to music, such as "solitude" (*ibid.* 24A). The *arranger's ear* is thus interested in the production of a specific aesthetic experience through an artistic re-interpretation of the initial sonic situation.

2.3 The colonial ear

The *colonial ear* describes a mode of listening that is produced by the forms of *epistemic violence* (Spivak, 1988) that characterize Western colonial and neo-colonial discourses, and at the same time sustains them. By privileging certain voices and by silencing other "subaltern" (*ibid.*) voices, this form of cultural domination also applies to the history of sound recording and listening. For Brady, recording practices in early ethnography were especially successful at providing "means to measure how far civilized Europeans had come" (Brady, 1999: 16), and similar ideas can be found in accounts of early commercial recording expeditions outside Europe. In the case of Bowles, the *colonial ear* relates to his *primitivist* views about Moroccan traditional cultures such as the Amazigh, which he believed were more *pure* and *authentic* than other Moroccan music genres (see Bowles, 1960). Such views are exemplified, for example, in the way he chose to organize his Moroccan recordings when they were first published in 1972 as a double LP: the first record (Highlands – The Berbers) contained only 'pure' Amazigh music, and the second (Lowlands – Influent Strains) only 'hybrid' music with Arabic, Sub-Saharan or Jewish influences.

The second matter pertaining to Bowles's *colonial ear* is his experience as an American expatriate in Tangier since 1947, a city which had the special status of an International Zone established by France, Spain and Great Britain in 1923. Like other American writers such as William Burroughs and Alfred Chester, Bowles found in Tangier a place of intellectual and sexual freedom that allowed space for personal experimentation. As Mullins suggests, however, such a freedom was itself secured through the specific forms of political and juridical domination established in Tangier by colonial powers (see Mullins, 2002). This meant, for example, that American residents were "not subject to Moroccan laws or taxes" (*ibid.*) and thus benefited from European colonialism. Moreover, they participated in the "social structures of colonialism" (*ibid.*) and their interactions with Moroccan people were "shaped by the psychology of colonialism" (*ibid.*). I argue that such

aspects are also present in the Bowles Collection, especially regarding the conditions under which certain musicians were 'asked' to come and perform for his recordings.

Bowles frequently provides information in his notes about the procedure he followed in order to gather the musicians together. The following example refers to an *Ahwach* music performance he recorded in Tafraoute on August 15, 1959, involving more than 30 musicians living in different villages in the valley:

> Getting musicians in Tafraout was complicated. The acting governmental chief took us several miles down the valley one morning to meet a certain caid who would send out a moqqadem to each village, commanding the men to appear the following night at the military bordj. (Bowles, 1960: 9B)

While Bowles did not have official permission for his project from the Moroccan authorities, he did not hesitate to use his influential position as an American citizen in order to convince the local authorities (governmental chief, caid and moqqadem) to force the musicians to come and play for him. Such a practice was in itself not uncommon, because musicians were often forced to play when the caid was celebrating. In the case of a project aimed at preserving local musical traditions, however, the procedure seems highly questionable from an ethical point of view. It is probably safe to assume that all of Bowles's recordings of large Amazigh music groups took place under similar circumstances, with the musicians being forced to play in front of him and the local authorities, sometimes even in the presence of armed soldiers. Such a procedure, I argue, was a perpetuation of forms of structural and epistemic violence characteristic of the colonial regime with which Bowles had become familiar during his previous twelve years in Morocco. While Bowles was not a defender of Western colonialism and frequently criticized the negative influence of French politics in his writings, his way of listening was, however, shaped by the formal structure of European colonialism and its preconceptions about the Orient.

By thus analyzing the Bowles Collection in terms of sound practices and describing them as specific listening modes – the collector's ear, the arranger's ear and the colonial ear – my intention is to propose a new cultural interpretation of the Collection as a particular case in the history of sound and listening. This approach will be consolidated in the course of my research and enriched with additional examples in order to propose a more accurate representation of the complexity of Bowles's sound practices. I believe that such a task by necessity requires involving Moroccan listeners in the process, so that their own perspective on the Bowles Collection may be included in this study. I began with this in June 2013 by returning digital copies of some of the Bowles recordings to their place of origin in the Amazigh regions of Morocco, in collaboration with Zouheir Atbane, a performing artist from Casablanca. Together, we have so far visited eight different locations, each time engaging in a process of listening to the Bowles recordings and discussing them with various local people including professional and amateur musicians, members of cultural organizations, instrument makers, festival promoters and traditional music lovers. We also were lucky enough to be able to identify three of the original musicians who participated in the Bowles recordings in 1959. In the following section, I present some the responses elicited in the course of listening sessions with people in the town of Tafraoute in the Anti-Atlas region of Morocco, 54 years after Bowles made his recordings.

3 Responses in Tafraoute

"Listen! That's us. This comes from us, it's old!" (Mohamed Anjjar, Tafraoute, 2013)

These were the first words uttered by Mohamed Anjjar, an 85-year-old Ahwach singer from Tafraoute, when we started playing back to him a music track with his own voice recorded by Bowles in 1959. Addressing his wife, who had not been one of the performers on the recording, he spontaneously used the pronoun 'us' instead of 'me'. Ahwach performances in the Moroccan Atlas Mountains are not limited to making music, but also include dances and improvised poetic exchanges with up to 60 performers. As Rovsing Olson remarks, "the predominant mode of singing in Ahouach groups is *unison*" (Rovsing Olson, 1997: 36), with "the intention for the choir to *be one*" (*ibid.*). For such a form of collective expression, the *us* is of particular significance and refers to the performers as much as to the spectators. My intention in this research is to use the Bowles Collection to explore the possible forms that this 'us' might come to represent today, including transcultural forms and possibly even inter-species forms.

When we arrived in Tafraoute in June 2013, no one there had ever heard of the recordings made by Bowles at this location in 1959. Like Bowles before us, Zouheir and I introduced ourselves and our project to the local authorities, who in turn put us in touch with a member of a local Ahwach music ensemble. As we played the Bowles recordings to her, she quickly identified the singing voice of Mohamed Anjjar. Meeting Mr. Anjjar at his house in Tahala was for us a highpoint in our research, as he was not only very alert and extremely welcoming, but also ready to spend time with us listening to the Bowles recordings and sharing his comments as a participant and as a contemporary witness to them. We later had the opportunity to organize a listening session with Hamida Khaddouj, Mammas Ben Rais, and Mina Moustaid, who are in their 50s and are active as singers in a female Ahwach music ensemble in Tafraoute. Another important encounter was with Farid Zalhoud, an Amazigh writer and language teacher at the local school, who was very knowledgeable about Amazigh oral culture and traditions in the region.

What follows are responses and comments elicited during separate listening sessions with these people. I have grouped these responses into categories corresponding to specific listening modes – the native ear, the social ear, the counter ear – in order to further elaborate my cultural interpretation of the Bowles Collection. This approach will help me to identify possible ways of listening to the Collection from a Moroccan perspective today, and to suggest additional ways of researching on it and with it.

Fig. 1. Mohamed Anjjar, Tafraoute, June 2013 (photo by Gilles Aubry)

Fig. 2. Listening session with Hamida Khaddouj, Mammas Ben Rais, Mina Moustaid and Zouheir Atbane in Tafraoute, June 2013 (photo Gilles Aubry)

3.1 The native ear

The *us* identified by Mohamed Anjjar in the recordings was certainly a *they* for Paul Bowles – that is, a *native* voice, which represented to him the complete *other* of his own *us*. With the *native ear*, I want to describe a mode of listening which is purposely limited to the representation of an idealized *local* and *authentic* listener. By using this term I also want to refer to the fact that Bowles came to Tafraoute precisely in order to record *authentic native* music and, by consequence, the fact that Mohamed Anjjar automatically became part of his collection as a *native* musician. I offer below a few examples of responses that I associate with the *native* mode of listening. They are in fact simply emotional reactions

and personal memories of the listeners. They also relate to the 'content' of the recordings, that is to music and lyrics that are very familiar to people in Tafraoute.

> Moulay the Haj, it's him singing! All those who are singing this song are dead. Today, me and my brother are the only ones left. The others are gone! (Mohamed Anjjar)

> The lyrics are always linked to the values of sharing and generosity. This song praises the "generous hand". When this hand is cut off, then everyone is sad. But nobody regrets it when it is stingy. This other one is about love, which needs to be detached from material values. This one is like a prayer, the lyrics invoke peace and wish other countries to resolve their conflict and to live in peace. This one is about King Hassan II: "God have mercy on your soul and that you may always be with us". It was our choice. We were happy to sing for our king. (*ibid.*)

> We were thrilled during listening, because all those who are singing have disappeared, except a few ones. (Mammas Ben Rais)

> The lyrics are of great quality. As singers, we would like to imitate such a style of poetry. Those who sing today don't have the skills to improvise like this. When the Maalem starts to improvise his poetic lines, you need the skills to respond to it. Kids don't want to hear this today. (Hamida Khaddouj)

> The bendirs (percussion) were not made of plastic like today! These were the good times, you could find real bread, olive oil, natural products without chemical fertilizers. At the time we didn't wear a veil, there was respect. (Mina Moustaid)

In the face of such comments, Zouheir and I could only be passive listeners. The *native ear* thus often goes systematically together with a *foreign ear*, its cultural counterpart, which is exterior to the local people and their histories. As both sides can only end up being frustrated when listening is restricted to such modes, it is necessary and possible to consider other modes.

3.2 The counter ear

The *counter ear* comes to represent what Zouheir and I were probably really looking for, namely the *rebellious* and *critical* ear of local listeners who might be unsatisfied with the role of *natives* that was attributed to them in the sound history traced by Bowles many years ago. The *counter ear* emerges together with the notion of "counter-narrative" (Bamberg & Andrews, 2004), when a subaltern voice starts speaking against its masters' narrative in order to tell its own version of the story. In the following examples, Mohamed Anjjar responds to Bowles, to his preservation project and his recordings, as well as to his *collector's ear* and *colonial ear*. He also responds to the violence imposed on him and his people by the Moroccan authorities at the time, just as the French occupiers had done until 1956.

> *I do not remember this American who came to record us. I don't recognize the guy on the photo. Foreigners were always protected, inaccessible. The men of the caid would not let us approach them to talk or exchange addresses.* (Mohamed Anjjar)

> *At the time, we were often forced to play Ahwach in front of strangers. The state, authorities forced us. We had to come on foot and we weren't paid for it. For the celebrations of the caid, the words were imposed. One had to honor him, and also his guests. During the French protectorate the Ahwachs were also forced to come and sing. Some say that the Ahwach music was used to*

criticize the occupiers... That's not true. People were afraid. They saw men being killed. It was only after the departure of the French that they began to speak about it in Ahwach poetry. (*ibid.*)

These recordings are indeed an example of preservation. I regret that only Paul Bowles is known today. The musicians themselves, they have been forgotten! One never mentions them as important contributors to preservation. What is missing are the names and the biographies of the musicians, so that they are not presented as anonymous people. Identification is not only the name, but it is also the origin of the people, their history. (*ibid.*)

We never thought to say that it was our music! I participated in the recordings, but I don't own them. We didn't know that we were being recorded. It's not correct to record without the musicians being aware. I find it outrageous! If we had known, we would have made a greater effort to play well. (*ibid.*)

While Mohamed Anjjar's comments clearly speak for themselves, they also raise questions regarding the Collection today, such as its ownership and accessibility. Today, access to the whole Collection indeed remains limited, and there has so far been no proper process of repatriation of the Collection to Morocco on an official level, despite an attempt made by the American Legation in Tangier in 2010. Hearing Mohamed Anjjar's responses, one also starts to wonder why there is still so little interest today in the musicians themselves and in their role in Bowles's project and their views about it. For example, the recently issued extended version of Bowles's original 1972 double-LP "Music of Morocco" on the American label "Dust to Digital" contains a very instructive introduction on the Collection and annotations by the musicologist Philip D. Schuyler, but unfortunately no new information about the musicians themselves.

The *counter ear* is of course not limited to a critique of the past, or of the West and its 'colonial ear', and can also include contemporary politics. The following example expresses dissatisfaction with the ways in which cultural preservation is practiced by the Moroccan state today, and also proposes another approach.

State politics in the field of cultural preservation are too often limited to a mere folklorization of Amazigh music, that is, inviting ensembles for festivals or touristic events. Preservation is a matter of collective work. The musicians, the state, the associations, the intellectuals, that is, representatives of each field of competence, should be involved. What is needed is the consolidation of the local bonds between the musicians and the population, in order for them to be appreciated. This also means involving younger generations of musicians via musical activities at school. (Farid Zalhoud)

3.3 The social ear

According to the ethnomusicologist Miriam Rovsing Olson, the music practices of the populations of the Atlas regions are characterized by "a strong connection to the natural environment" and are largely determined by "social life and agricultural activities" (Rovsing Olson, 1997: 19). Bowles's notes on his recordings contain no information about the social function of the music practices that interested him, which is surprising for a project aiming at cultural preservation. He instead focused exclusively on the music performances, assuming perhaps that their social context would somehow automatically be preserved in the recordings themselves.

As we started researching in Tafraoute, many of the responses we received addressed the traditional social and communicative functions of Ahwach music, which I describe here as a result of the *social ear* listening mode. They refer to the almost exclusively oral character of Amazigh culture, including its transmission and performance based on poetic improvisations. While fragmentary, these responses necessarily also address the changes that have occurred since Bowles's times, as in the following example:

> *The music, the rhythms, the instruments, are more or less the same today, what has been lost is this ability of the singers to improvise, which is central to oral culture. It is about finding a smart and poetic response to another bard challenging you during an Ahwach. This involves sometimes inventing new words or expressions. The oral poet is in a way the awareness of the community and of the ethnic group. He needs to be able to read the society, its aspirations and transformations. Many different things can be debated in this way during an all-night Ahwach evening: Amazigh identity, political, social and religious problems, but also love and passion. It's a mix of topics, including sports and the local football team, as well as Hugo Chavez, Saddam Hussein or the Arab spring.* (Farid Zalhoud)

In the next example, Mohamed Anjjar insists on the importance of the audience as a community of *active* listeners, whose presence is integral to the performance. Because a sound recording cannot directly document the presence of a *silent* audience, the sonic medium alone appears limited in its ability to perform cultural preservation in this regard. 'Frozen' on tape, the recorded performance becomes a sound product, allowing in turn for new kinds of mediated listening experiences. At the same time, the recording seems disconnected from its original audience:

> *At the time, one had to go to the performance to hear this music. The presence of the musicians, the Ahwachs, was essential, because there were no CDs in circulation. It's good to record... but it is better to attend an 'Ahwach' in person. This vibration, this state, cannot be recorded, one only feels it live. Like a football game! The on-site presence of the audience is just as important. Which means that poets cannot just say anything. Poetry is aimed at people and one is very aware of it when celebrating an Ahwach. There is a form of respect that is directly related to the presence of the audience. This is an aspect that is not captured by the recording.* (Mohamed Anjjar)

The lack of development policies on the part of the Moroccan state in most Amazigh territories after independence has forced many inhabitants to leave, either migrating to the big coastal cities or quitting the country altogether. The resultant transformation has led to a progressive restructuring of the local economy to create a mixture of rural, tourist and trade activities. The following statement by Mr. Anjjar explains how this phenomenon has also affected the social dimension of Ahwach music:

> *Ahwach music is transmitted orally, parents teach their children. But today the tradition is lost. My children did not continue... They left the village to go and live in Casablanca. The musicians who play Ahwach nowadays learn it via CDs and not with their parents anymore. They do it first and foremost for the money. Ahwach should be free, but today it's money that matters. At the time, we mostly played among ourselves and for ourselves. It was basically not a service to satisfy so-and-so.* (Mohamed Anjjar)

The responses elicited so far in Tafraoute are fragmentary, and the process ought to be repeated in order to get a broader sense of how such recordings can be received locally today. It is also clear that the proposed listening modes are not exclusive to each other, and that some of the responses may be interpreted in terms of several modes, possibly

including additional ones. This approach nevertheless provides us with a useful basis for considering how the various listening modes may relate to each other.

3.4 Relations between listening modes

I have so far identified three modes of listening in relation to Bowles's sound practices – the *collector's ear*, the *arranger's ear* and the *colonial ear*, as well as another three local modes of responding to the Bowles recordings today – the *native ear*, the *counter ear* and the *social ear*. The collector's ear and the colonial ear are historically related, as both belong to the long tradition of Western materialism and colonialism. The material fixation of music on tape allows for its later categorization along formal and racial criteria, as in the case of the first publication of the Bowles recordings in 1972. What emerges from the combination of these two listening modes is the personal prestige of the recorder, a tape collection with a growing material value, and a set of questionable cultural representations of Moroccan music practices. The native ear and the counter ear are directly related to these first two listening modes. The colonial master ear systematically creates a subaltern native ear, which itself generates a rebellious counter ear as soon as it gets a chance to be enacted.

The social ear also relates to the first three modes of listening, perhaps in a more indirect way, as it refers especially to what is mostly *absent* in the Collection, namely the fundamentally social character of Amazigh music making. One can speculate today about Bowles's reasons for systematically neglecting to refer to social aspects of the music practices he was recording, but at least we can be happy to have his recordings and must respect his choices while at the same time regretting them for the sake of 'cultural preservation'. The social ear only indirectly relates to Bowles, because it mostly refers to transformations within Moroccan society since the 1950s that have affected Amazigh populations independently of Bowles. The *telos* of the social ear generally matches well-known descriptions of how worldwide rural societies had no choice other than 'developing' into modern urban societies and then, more recently, into globalized, post-modern societies, a process that is still in progress and that often encompasses the commodification and/or folklorization of traditional cultural practices.

The arranger's ear does not relate directly to either of the three local listening modes identified in the responses by people in Tafraoute. The reason for this, I argue, is that Bowles was not addressing a Moroccan audience when he made his recordings, but apparently an exclusively Western one. His recording aesthetics were largely influenced by his own musical tastes, which were mostly for Western classical, jazz and avant-garde music. While Bowles insisted on his Moroccan recordings being published soon after his trip, it was apparently never a priority for him to make the recordings available to a Moroccan audience. When the double LP "Music of Morocco" was finally released by the Library of Congress in 1972, the record quickly came to consolidate Bowles's already established status as an 'anti-conformist' and 'original' artist who was highly regarded especially among non-institutional, experimental and psychedelic (Western) musicians; this is still the case today. As problematic as his views on Moroccan music and cultural preservation might appear, Bowles's creative use of recording and his ideas about

transformative listening might provide a useful starting point for a reconsideration of critical sound practices.

4 Towards 'decolonized' listening

It was important to meet Mohamed Anjjar in Tafraoute to be able to give him the opportunity to respond to his representation as created by Bowles through his recordings in 1959. While this was a modest step to take, it could at least constitute a symbolic contribution to a momentary release of the colonial tension perpetuated thus far through each public presentation of the Bowles recordings that implicitly reduces the musicians to the status of mute, quasi-anonymous, subaltern voices. *Decolonizing listening*, however, cannot be limited to a historico-cultural re-interpretation of documents. As Stevenson and Kohn remark, the problem with the cultural approach is that it systematically ends up "domesticating [indigenous realities] as human, social, cultural, or linguistic constructions" (Stevenson & Kohn, 2015: 52). Such *dividing* cultural constructions, Viveiros de Castro argues, are integral to Western metaphysics and, therefore, to "every colonialism" (Viveiros de Castro, 2014: 41). Decolonization, he adds, means first and foremost "decolonizing [Western] thought" (*ibid.*) in order to make room for "indigenous practices of knowledge" (*ibid.* 42). I do not intend to enter here into a detailed reflection on how Viveiros de Castro's notions of "perspectivism" and "multinaturalism" (see Viveiros de Castro, 2014) may consistently apply to an ethnography of Amazigh concepts in Morocco. Suffice it to say that I am convinced that new approaches are also needed in the field of sound studies, beyond cultural analysis, critical theory and deconstruction.

4.1 Unreducing cultural categories

As a possible starting point, Viveiros de Castro suggests that the question is not of abolishing "the borders that unite/separate sign and world, persons and things, "us" and "them", "humans" and "nonhumans", […], but of "unreducing" [irréduire] (Latour) and undefining them, by bending every line of division into an infinitely complex curve" (*ibid.* 45). In order to embrace this complexity, Latour calls for the necessity "[not] to get *away* from facts but *closer* to them, not fighting empiricism but, on the contrary, renewing empiricism" (Latour, 2004: 231), which should be the task of ethnography today. Such an ethnography, Stevenson & Kohn suggest, means making room for "other kinds of realities" (Stevenson & Kohn, 2015: 52), which involves "letting go of our sovereign self […] and of our reference points" (*ibid.* 51). Based on these assertions, the first condition for a *decolonized listening*, I suggest, is to put aside our logocentric, cultural grid of interpretation in order to engage more fully in bodily experience. In the sound domain, this means letting go of the 'critical sound expert' in us and concentrating on our experience as *sonic selves*.

4.2 Savage ears

Because of its immersive and relational character, sound provides us with an appropriate way to engage with other kinds of realities which emerge when one assumes a non-logocentric point-of-listening. By asking "what other voices resonate when voice is

decoupled from speech?" (*ibid*. 49), Stevenson and Kohn call for "a different way of listening" (*ibid*. 51). This requires "developing an ethnographic attunement to the voices that haunt our world" (*ibid.* 52) – including those of non-human entities and other agents – which need first to be heard through observation before they can "make us over" (*ibid.* 49). B y *thinking through sound* I suggest a way of experiencing the relationality between the various *sonic beings* (human and non-human) which co-exist in an environment, including oneself. The second condition for *decolonized listening*, therefore, is to acknowledge the existence and intentionality of all participating voices in the experience.

In his description of the "Savage Mind" (1962), Lévi-Strauss suggests that it is precisely this grouping of inter-related beings that provides the basis for "introducing a beginning of order in the universe" (Lévi-Strauss, 1962: 16). "Mythical thinking", he argues, is "totalizing" in the sense that "it refuses that any being might remain foreign to it" (*ibid.* 324). *Savage listening*, I suggest, similarly emerges out of a community of sound beings. Open to constant remodeling, savage listening operates by analogy and association, and refuses "classificatory systems" and "schematization" (*ibid.*). Engaging in such a listening experience also means "offering the participants arenas in which to gather" in order to identify common "matters of concern" (Latour, 2004: 246). The third condition for decolonized listening, I suggest, is the grouping of sonic selves into systems of relations, which can eventually serve as new concepts.

4.3 Artistic approach

When ethnography becomes attentive to bodily experience and to the meaning emerging directly within materials, it also appears very close to artistic practice. Some of the responses described in section 3 are included in the sound work "And who sees the mystery",[1] an artistic attempt by Zouheir Atbane and myself to render our experience in Tafraoute in 2013 with the Bowles recordings. The piece is not 'just' a documentary, but rather a sonic exploration of the various auditory regimes and perspectives we had encountered in the course of our research. As it is sound-based, we hope that the piece is more sensual than the present text, and it also includes non-vocal sounds – field recordings, music, and feedback. Combined together, these elements open up additional possibilities for sonic experience, in ways which seem to me more adequate than a written text for dealing with the complexity of transcultural situations.

As I have recently engaged again in listening sessions in Morocco, it has become even clearer to me that yet more aspects are at play in such situations. These aspects involve the very experience of listening collectively and its potential for attunement between the participants, despite obvious cultural differences. Anticipating future researches in Morocco, our task will consist of finding ways of populating this system of relations with yet other voices, to be revealed through immersive ethnography and artistic experiments.

1

The video can be accessed under: www.archive.org/details/tributetotheear

Fig. 3. Listening session with the musicians Manssour Belkhyalatt, Abdallah Haddou, Ben Allal Abderrahmane and Zouheir Atbane, Oujda, March 2014 (photo Gilles Aubry)

Fig. 4. Still from the performance "Befuddling the archive" (*Zouheir Atbane*), by Aubry & Atbane, Marrakech, April 2014

5 Conclusion

I have proposed in this paper an interpretation of the *Paul Bowles Moroccan Music Collection* in terms of specific listening modes (section 2), followed by another three listening modes for the responses collected in Tafraoute (section 3). My point is to demonstrate how such music recordings can be described as the result of culturally and

historically determined sound practices, and how their meaning might change according to who are the listeners today. This method will be further developed in the future through the collection of additional ethnographical data to be interpreted in a more detailed cultural analysis. In order to make room for new ontologies in our study, my Moroccan collaborators and I will redefine our artistic strategies as a means of coming closer to *decolonized listening*, for which I have attempted to sketch the conditions in section four. These involve letting go of our respective 'cultural' self (1), getting attuned to all possible kinds of 'sonic beings' (2), and grouping these voices into new systems of relations (3).

Despite my attempt at cultural analysis of the Bowles recordings, it remains impossible to tell precisely where the cultural border runs within each of them, between what belonged to Bowles's culture and to that of the musicians. Because they are transcultural products, I argue that these recordings provide a suitable arena for engaging in decolonized listening experiences. In this way, the *us* identified by Mohamed Anjjar in the recordings and discussed in section two might come to include surprising new beings – animals, plants, spirits, saints, echoes, and other entities – to be assembled into a re-configured *we,* possibly new to all the participants.

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15. The Menace of the Earthquake: Listening to the Chilean criollo

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Abstract: In this paper I want to propose a sonic understanding of the Chilean criollo. Through an exploration of the work of certain Chilean artists and the Andes mountains, both in its cultural symbolism and as a land of earthquakes, I will unveil key notions that configure the criollo as an uncertain position/non-position. As such the criollo cannot be grasped through traditional concepts of identity or essence. It is an invisible position that is not fixed to one determined post, but that can only be listened to as it flows through the medium. This sonic take on the Chilean criollo is framed in the discussion about creolization and transcultural experience.

Keywords: creole, multiculturalism, Chile, listening, identity, sonic.

1 Introduction

Through a listening to the Chilean criollo, I want to propose a sonic approach to the debate that could be labelled as the creole experience. This is a debate about how multiculturalism and transculturalism, identity and history among others, are experienced and shaped. As a listening, my approach deals with creole issues from a prism of flow and evanescence.   Listening provides both a physical immersion into what is being listen to and also an eventual detachment from it. Listening does not capture sounds as a recording or a score would perhaps do, listening allows sounds to flow as a continuos event in time. For me, this double condition of listening both as a material, bodily experience and as a continuous vanishing, offers the tools to effectively pinpoint the creole experience.

My sonic take will focus on the particular creole experience of the Chilean criollo. From this focus I expect to draw insights that can contribute to the debate in general. My first concern will be to delineate my definition of the Chilean criollo in relation to traditional ones. With that in mind I will give a general overview of what for me counts as the two most relevant sides on the debate of the creole experience. Finally, through an exploration of the work of certain Chilean artists and the Andes mountains–both in its cultural symbolism and as a land of earthquakes–I will unveil key notions that configure the criollo as an uncertain position/non-position that cannot be grasped through traditional concepts of identity, essence or even the lack of them. As such, it is an invisible position that is not fixed to one determined post, but that can only be listened to as it flows through the medium. From my perspective, this condition of the criollo allows to rethink the creole experience in general, providing new insights and perspectives to the debate.

2 Traditional interpretation of the criollo

The sonic understanding of the Chilean criollo that I will try to develop, comes from a different interpretation to the traditional use of the term. In Chile the term criollo has been used to construct the essential characteristics of the national identity. In effect, an arbitrary portrayal of the criollo has been used to construct a Chilean essential identity that would separate its people from the people of other countries. It has been given fixed attributes to play the fundamental role of enforcing a unified Chilean nationalism. This has been constructed by the imposition of certain cultural practices by the elite hand-in-hand with dictatorships and war, both against neighbouring countries and the native people.

The criollo as national identity could roughly be identified in two stages that share in common a search for an essentialism from which to construct an identity. In shaping both these identities music played a crucial role.

In the colonial times of Spanish America, the word criollo was used to denominate those of a European descent that were born in American soil. Although they did hold important jobs and roles in the administration, received good education and owned land, this group did not have the same privileges than those born in Europe. Inevitably this led them to organise the country in a war of Independence. Once victorious, they governed continuously throughout the nineteenth century and gave the foundations of the Chilean identity in the archetypical figure of the Huaso.

In fact, as musicologist Juan Pablo González shows in his study about the interplay between Same and Otherness in Chilean identity through popular music, it is the Huaso who is identifiable as the Same.

> In Chilean popular music, alterity or the condition of being an Other has been defined in great measure from a Same that is born out of the criollo culture of the central valley of the country, where the huaso reigns. This horseman of the Chilean countryside, is an individualist and conservative criollo. Critical of innovation and tied to the fertile lands of the central valley, where he forged his homeland and where his country states lie. (González, 1997: 62)[1]

The Huaso is a countryside figure that is still deeply relevant to the construction of the Chilean identity. In fact, the ballroom cueca that the Huaso played in patronal houses is still taught at large in schools throughout Chile and promoted by the state. This is enforced by a law from 1979 passed by dictator Augusto Pinochet that declares cueca to constitute "the most genuine expression of the Chilean soul through music and dance" and that the State must play a fundamental role promoting it through its cultural institutions and education (Decreto 23, 1979).

This first construction of the criollo is charged with traditional and aristocratic values that nowadays appeal only to a minority. Beside a nostalgic view of "the good old days" of countrylife, only extremists would try to enforce this form of criollo. Sadly, these type of groups do exist in Chile and are organised in groups such as Fuerza Nacional-Identitaria and Corporación de Defensa de la Soberanía.

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[1] 'La alteridad o la condición de ser Otro en la música popular chilena, ha sido definida en gran parte desde un Uno que surge de la cultura criolla del valle central del país, donde reina el huaso. Este "jinete del campo chileno", es un criollo individualista y conservador, crítico ante la innovación, y que está ligado a las fértiles tierras del valle central, donde forjó su patria y están sus fundos.' My own translation.

A second stage of the criollo identity is later developed that replaces the figure of the huaso for that of the guachaca. This second form of criollo is sustained to this day by the social organisation of the Guachacas (http://www.guachacas.cl/). Guachaca was originally a term used by the elite to refer to people they saw as vulgar, unsophisticated and drunk. The guachaca is a urban criollo that instead of dancing to the ballroom cueca of the huaso, dances to the cueca brava of lowlife bars and cabarets. Some of its most well known musicians are Roberto Parra and Los Chileneros.

In both these stages the criollo is built as a national identity that negotiates elements such as European and Native american heritages to shape an essentialist view of what being Chilean is. Shaping it as essentially different from what other similar populations around the globe are and particularly as different from the populations of neighbouring countries.

However, the essentialist view of the Chilean criollo falls apart easily. Beyond its political use, it lacks any substance–For example, the cueca rhythm that is quintessential to the definition of the identity, is also popular in Bolivia and Peru. Therefore, save for certain commemorative dates and football frenzies, the criollo essentialism remains invisible to the population at large. It is during this invisibility that people live their lives enacting other identities that, simplifying, could be categorised into two groups, namely a native americanism or a Western cosmopolitanism. Yet, the fact that the criollo is invisible in this enactments doesn't mean it is not present. Indeed, it is present in silence as a frame that cannot be identified with any particular stance but that allows for the freedom to enact the identity of your choosing. Thus, this invisibility is constitutive of the contradictory identity of the criollo. By way of being constituted in a principle of uncertainty that abolishes dualisms of identity/non-identity, the criollo cannot be understood through traditional concepts such as essence, unity or congruence. To my judgement, this invisibility of the criollo not only is responsible of allowing a freedom to identify with other cultures. It is also responsible for allowing an easy path to create fictional essentialisms such as those described above.

The criollo is somewhere in between the coloniser and the colonised, not entirely one or the other. Even more, the criollo does not precede the relation between the two but it is the result of their interaction. As a silent mediation between the coloniser and the colonised, the criollo does not occupy a position in itself. It is an invisible agency that flows in-between. Instead of depicting it by logical notions such as coherence or unity, it is through sonic notions that we can listen to its evasive identity as echoes, silence, feedback and transduction.

My sonic take on the Chilean criollo identity partly builds from the work of other authors that have worked or analysed similar phenomenons such as Nicolas Bourriaud on one side and Coco Fusco and Homi Bhabha on the other. As I will show below, these authors bring two opposing views to the debate that I have termed as the creole experience. Their positions are irreconcilable as long as the debate has been embedded in visual-logical paradigms that inevitably end up making clearcut distinctions between what is and what is not. In my judgement, in the work of certain artist from Chile there is a sonic approach to the invisibility of the criollo that offers a new light in the debate of the creole experience.

3   The Creole Experience Debate

In the context of multiculturalism, Bourriaud proposes the notion of the radicant artist. This notion is opposed to what he identifies as the radical artist in both modernism and post-modernism. For him, the radical artist is tied to a metaphor of the root. In the case of the modern radical, this meant a return to first principles.

> Pruning, purifying, eliminating, subtracting, returning to first principles–this was the common denominator of all twentieth century's avant-gardes. The unconscious for Surrealism, the notion of choice for the Duchampian readymade, the lived situation for the Situationist International, the axiom "art=life" for the Fluxus movement, the picture plane for the monochrome: so many principles on the basis of which modern art elaborates a metaphysics of the root, a desire to go back to the beginning, to start again and create a new language, free of its detritus. (Bourriaud, 2009: 44)

In the case of the post-modernist radical artist, Bourriaud doesn't see the desire to start again but a play with the arbitrariness of roots.

> If for modernism, the "return to the root" meant the possibility of a radical new beginning and the desire for a new humanity, for the postmodern individual it no longer represents anything but the assignment of an identity. That identity may be rejected or mythologized, but in either case it functions as a natural framework. (Bourriaud, 2009:50)

In contrast the radicant artist is not concerned with origins. It "resembles those plants that do not depend on a single root for their growth but advance in all directions on whatever surfaces present themselves by attaching multiple hooks to them, as ivy does." (Bourriaud, 2009: 51) As such, for the radicant artist,

> There is no single origin, but rather successive, simultaneous, or alternating acts of enrooting. While radical artists sought to return to an original place, radicant artists take the road, and they do so without having any place to return to. Their universe contains neither origin nor end. (Bourriaud, 2009: 52)

The radicant is thus compered to the subject of queer theory.

> The figure of the subject defined by the radicant resembles that advanced by queer theory, which views the self as constructed out of borrowings, citations, and proximities, hence as pure constructivism. (Bourriaud, 2009: 55)

Yet, it is in what he terms creolisation, where Bourriaud finds the natural habitat of the radicant. In relation to the work of artist Mike Kelley he states

> Creolization produces objects that express a journey rather than a territory, objects that are the province of both the familiar and the foreign. Thus, in the work of Mike Kelley, para religious Chinese practices, folk art, and popular culture no longer represent instances of otherness in relation to a dominant culture, but simply elsewheres or other ways, on the same basis as classical Western culture. (...) From this point of view, Mike Kelley's work is elaborated in the non-place of global creolization–in a radicant space.(Bourriaud, 2009: 74)

This creolization is seen positively by Bourriaud as it would allow a complete freedom of movement and detachment from roots.

> Why should the fact that of having been born in a place serve as a pretext for denying us the right to be merely temporary sojourners there? To betray one's origins by selling them in the market of signs, to crossbreed these signs with those of more or less distant neighbours, to renounce the value assigned to

cultural materials in favor of their convertible, local use value: this is the program of creolization that is taking shape. (Bourriaud, 2009: 76)

Although Bourriaud's creolisation program seems to allow for freedom of movement and a general liberation from the weights of history and cultural heritage, his view is nonetheless constructed by presuppositions well rooted in the same mechanisms he is supposedly breaking from. The Radicant assumes a fix portrayal of cultures. They are given in the world and cut in black and white. Therefore he proposes the radicant as a translator. As the bearer of creolisation, the radicant produces a new modernity, a twenty-first-century altermodernity based on translation.

> This twenty-first-century modernity, born of global and decentralized negotiations, of multiple discussions among participants from different cultures, of the confrontation of heterogeneous discourses can only be polyglot. Altermodernity promises to be a translation-oriented modernity, unlike the modern story of the twentieth century, whose progressivism spoke the abstract language of the colonial West. (Bourriaud, 2009: 43)

However, translation presupposes a realm of universal signification. If the radicant's modernity is based on translation, then it is a modernity that is unfolded from a meta-culture that allows for the translation from one culture to the other. For this meta-culture to be all-encompassing and therefore to allow a translation-oriented modernity, would mean that culture is accessible in its entirety from an ideal, disembodied subject. A cultural cogito that is not fixed to any of its embodied manifestations but that has equal access to all possible embodiments–be them in any cultural language.

The radicant's creolisation is one of hope through translation. It is through it that cooperation between multiple cultures will move from what Bourriaud sees as a sterile multiculturalism and succeed in creating a common altermodernity.

> We must move beyond the peaceful and sterile coexistence of reified cultures (multiculturalism) to a state of cooperation among cultures that are equally critical of their own identity–that is to say, we must reach the stage of translation. (Bourriaud, 2009: 27-28)

Even though the goal set by Bourriaud for altermodernity might be desirable, it is not such a simple task to accomplish. As human beings we do not have freewill access to different cultures. We are not immaterial cogito's untouched by material circumstances. Even though if "the artist refuses to become a member of any fixed space-time continuum" (Bourriaud, 2009: 57) or "refuses to be assigned to any identifiable and irrevocable aesthetic family" (Bourriaud, 2009: 57), the artist nonetheless is determined by a series of elements he cannot control. Following up with the metaphor of the radicant plant, for as much as the ivy will move in every direction without an essential root, it will remain being ivy. It won't translate into roses just by sharing the same soil with them. The artist's freewill might be the ivy deciding where to follow its journey, yet this freewill does not control the corporeal constitution of the ivy. The way an artist paints, sings, thinks, etc. is not only the product of freewill but constituted from its body and context. Creolisation as Bourriaud envisions it, is a product of the mind that could by itself mix at freewill elements of different cultures without any noise from elements that are beyond the mind's control.

A different perspective is offered by Coco Fusco. As a performance artist, her approach is far from the disembodied appreciation of Bourriaud. For her, the body assembles identity as a material expression of the history and culture that bred it. As a cuban Latina she views her body "as a decorative layer that conceals a non-identity." (Schultz, 2008: 13). This consideration of her body comes from her identification with a people that is 'consistent throughout Latin and Central America' and that is composed in "Hybridity with indigenous populations'. A people that 'find themselves at physical, cultural, and metaphoric crossroads, because Spanish rule and the slave trade created diverse populations." (Schultz, 2008: 13). Her body is decorative as this history and hybridity is present in her constitution, yet it does not go deeper than a decorative layer, as underneath it there is no essential identity.

As devoid of that central essence, her work is also based on a journey of creolization, yet this is not the journey of freewill but of different cultures and histories and how they are manifested and performed by the body. Writing about her collaborator Guillermo Gómez-Peña, Fusco describes what she terms 'transcultural experience'. With similar implication's to the creolisation of altermodernity, this transcultural experience "evokes a view of contemporary society in which the social formations of different historical periods and cultures interact." (Fusco, 1991: 46) From this interaction "a new generation of multicultural, multiracial, "deterritorialized" border citizens emerges as primary agent." (Fusco, 1991: 46)

Dealing with these issues Gómez-Peña and Fusco performed *Two Undiscovered Amerindians*. This piece consists in the exhibition of both of them as fictitious Amerindians in a cage at display. This performance mimics "the real history of ethnographic exhibition of human beings that has taken place in the West over the past five centuries." (Fusco, 1994: 143) It also draws inspiration from a fictional story by Franz Kafka of "a man from the Gold Coast of Africa who had lived for several years on display in Germany as a primate." (Fusco, 1994: 143**)** Fusco was interested by that story as an account that, even though it was 'fictitious and created by a European writer', it "stressed the irony of having to demonstrate one's humanity" (Fusco, 1994: 143).

The authors "were intrigued by this legacy of performing the identity of an Other for a white audience" (Fusco, 1994: 143). In this sense, their approach relates to the concept of mimicry developed by Homi Bhabha.

> In mimicry, the representation of identity and meaning is rearticulated along the axis of metonymy. As Lacan reminds us, mimicry is like camouflage, not a harmonization of repression of difference, but a form of resemblance, that differs from or defends presence by displaying it in part, metonymically. Its threat, I would add, comes from the prodigious and strategic production of conflictual, fantastic, discriminatory 'identity effects' in the play of a power that is elusive because it hides no essence, no 'itself'. (Bhabha, 1994: 90)

In effect, *Two Undiscovered Amerindians* successfully embodies the play of power between a Same and an Other that hides no essence. Thus it works through mimicry to create a tension between an almost non-human exotic Other and a human Same.

Fusco's embodied mimicry proposes a material approach to creolisation that considers it from the flesh of those constituted by its violent history. Contrary to the freewill creolisation of the radicant, it is built from a particular condition that was not chosen by its protagonists. Bourriaud sees this approach with caution as it would "obliterate any possibility of dialogue among individuals who do not share the same history or cultural identity." (Bourriaud, 2009: 25) Therefore, for him the creolisation proposed by practices and theories such as those of Fusco or Bhabha fails "to elaborate a critique of modernist ideology that does not lead to an absolute relativism or to a piling up of "essentialisms."" (Bourriaud, 2009: 25)

For me, both sides of this debate on the creole experience make valid points. On one side, the aim set by Bourriaud seems to be desirable in trying to establish a common ground of understanding and of multicultural communion. On the other side, his approach doesn't consider the real violence and suffering through which creolisation has unfolded, which seems to be a major omission on his theory. If Bourriaud on one side and Fusco, Gómez-Peña and Bhabha on the other seem like irreconcilable approaches, I believe this is due to the fact that the discussion has developed through a lens that is unable to properly grasp the issues at hand. Notions such as a body that conceals no essence or a rootless origin are oxymorons that leave us in an unsurpassable state of perplexity. They cannot be properly described through the logical language these authors have chosen, as they are precisely trying to escape the inflexibility of it.

Thus, I turn into sonic notions that I believe offer a way out of this dead end street. Describing the principles of what he terms sonic philosophy, Christopher Cox proposes that sound "affirms an ontology of flux in which objects are merely temporary concretions of fluid processes." (Cox, 2013) As such "this flux ontology replaces objects with events." (Cox, 2013) For him "the sonic flux is not just one flow among many; it deserves special status insofar as it so elegantly and forcefully models and manifests the myriad fluxes that constitute the natural world." (Cox, 2013) Moreover, music itself could be understood as going in the direction of this sonic ontology as "Music has always posed an ontological problem, for (unlike the score or recording that attempts to capture it) it is intangible and evanescent but nonetheless powerfully physical." (Cox, 2013) As such, the sonic flux could be understood as providing the conceptual perspective to describe the illogical position of the creole experience. This description, instead of constructing a fixed theoretical apparatus, functions as a listening of creolisation as a flux.

I believe such a listening to the creole experience plays an important role in the work of certain Chilean artists such as composer Roberto Falabella and poet Juan Luís Martínez. By analysing certain works of them I will endeavour to propose a conciliation between the opposing views on creolisation portrayed above.

4   Falabella: echoes through silence

Roberto Falabella, was born in 1926 and suffered from cerebral palsy from a young age. This disease had him on a wheelchair throughout his life and eventually took his life in 1958 when he was only 33 years old. In spite of this, he was able to write about what a Latin-American composer should be and create an ample body of works, most of which remains archived without ever being performed or analysed.

His orchestral work from 1957 *Estudios Emocionales* or *Emotional Studies* is one of the few of his pieces that has been performed in more than one occasion. This is an orchestral piece with a preponderance of percussion and only a moderate use of strings. It is organised in VII studies to be played continuously as one piece. It is composed through an eclectic mix of resources and the overarching presence of silence.

Studies 1 and 3 are energetic and loud. They are built upon short repetitive rhythmic figures that combine elements from the noisy carnivals of the north of Chile and a minimalism of modal harmonies. Study Nº3 is reminiscent of Stravinsky by the use of irregular metrics that give the impression of unfinished and stuttered phrases. This study finishes in a long silence. This silence is located at the centre of the piece and as I will show later, it is essential to the understanding of the composition.

 Studies 2, 4 and 5 juxtapose the contradictory resources of a clear nortiño melody with the serialist techniques of Anton Webern. Dominated by fragmentation, short silences and bizarre shifts, these studies have a strong dramatic energy, as if a struggle between nortiño and serialist techniques was taking place.

Study Nº6 builds from the resources of all the previous studies to reinforce the sense of fragmentation, contrast and juxtaposition. Noisy, nostalgic, energetic, repetitive and serialist fragments are entangled to produce an entropic mood.

Finally, study Nº7 grows little by little into an agitated and majestic finale. It combines melodic, rhythmic and the irregular metrics of the previous studies to grow into an energetic, carnivalesque affirmation of this eclectic mix. This is achieved by growing through dynamics, orchestral thickening and accelerating the tempo.

On an article from 1958, Falabella gives a clear insight onto the agenda that enlightens his path. He declares, that 'no longer does the american man resign himself to be a passive element on which all European cultural streams go to die and aspires to offer his peculiar contribution.'[2] (Falabella, 1958: 80) Talking about serialist techniques in particular, he states 'Dodecaphony is not the last stage of musical evolution, or not even the highest so as to, in a purist eagerness, exclude all other.'[3](Falabella, 1958**:** 91)

Thus, it is from this non-vertical view of musical resources that he creates his own particular contribution to music as an american composer. On this article he doesn't mention the use of silence as a resource in his composition technique. In my view, it is the use of silence what allows in *Emotional Studies* the juxtaposition of contradictory

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[2]"El hombre americano ya no se conforma con ser un elemento pasivo donde vayan a morir todas las corrientes culturales europeas, y aspira a otorgar su aporte peculiar." My own translation.
[3]"La dodecafonía no es la última etapa de la evolución musical, ni aún, la más elevada para que, en un afán purista, se excluyan todas las anteriores." My own translation.

materials. As was mention above, silence occupies a central position in the piece. At the end of Study Nº3 there is a long written silence. By considering the total duration of the studies as a whole, this silence sits in the centre of the composition. The three studies that precede the silence introduce the different elements at play. The studies after the long silence fragment and juxtapose the elements and also allow for periods of silence to knit them together. These are Studies 4, 5 and 6 and the use of fragmentation and silence grows in intensity through them. After Study 6, Nº7 arrives as a conclusion on which the different elements are vigorous and simultaneous.

The structure of the studies as described above could be mistaken as following the sonata form. Elements are introduced, then combined and finally there is a grand finale where the elements are brought together. Yet in the final study the different materials are never unified into a coherent one. They lack a congruence to be considered as unified into one essential principle. It is more the case of a synchronous being together than a proper sonata conclusion. Even more, some of the elements could be be considered as in direct opposition to each other–such as simple modal melody and Webern's serialism. The ability to propose such a heterogeneous synchronicity is achieved by allowing silence to occupy the central space of the musical discourse.

On the score, silence is nothingness. It is a void, an emptiness measured in bars. As such, silence frames the outside of music. It gives room to what lies outside the music discourse. If Fusco spoked about the body as a decorative layer that conceals a non-identity, perhaps here we could speak about music as a decorative layer that conceals a silence. There is no unified or essential music characteristic, only these superficial musical styles sustained through silence. None of the elements have a priority over the other. There is no hierarchical order nor a progress from old styles into new styles. Serialism, perhaps considered just as a form of European folk, is treated at the same level as South American folk.

Silence is both pacifying the heterogeneity of elements but at the same time it is obstructing the development of a unified musical logic. In fact, for the 1960 interpretation of the *Emotional Studie*s by Orquesta Sinfónica de Chile, the director Georg Ludwig Jochum in an attempt to give more unity to it, left out the long silence and shorten the others. This interpretation was the only available recording of the studies until recently. By cutting the silence, perhaps the german director succeeded in giving more unity to the piece as regarding to the European tradition of music composition. However it completely destroys its main feature and puts in evidence how Falabella's composition technique of silence disrupts the expectations of musical form.

Also from 1957 is his piano piece *Retratos*. On this piece there is a similar composition technique of combining a heterogeneity of musical styles with a preponderance of silence. There is no South American folk in this one but a diversity of historical and contemporary styles that go from classical to serialism and experimental approaches to the piano–like banging it on the sides and the lid. Just as in the studies, different fragments are presented, freely combined and interweaved by sections of silence.

Through the use of silence, diverse materials are built into a whole that lacks unity and yet becomes unified. The void of silence in the score functions as an empty chamber on which

the different musical styles become echoes of this fundamental emptiness. Different materials resonate with one another and provide different possible paths of musicality, yet they are inevitably bound to silence.

In the context of the creole experience, we can identify in Falabella's work a listening to multicultural experience that, through the overarching presence of silence, validates the multiplicity of musical languages as echoes in the emptiness. As defined by Mark Smith "an echo is nothing if not historical. To varying degrees, it is a faded facsimile of an original sound, a reflection of time passed." (Smith, 215: 55) Therefore, echoes by themselves cannot claim access to a fundamental essence. The space of the original sound in Falabella is occupied by silence. In effect this silence is very much a listening to the invisible position/non-position of the Chilean criollo.

 In my opinion this offers a way out of the conundrum left by Fusco and Bourriaud. It provides an experience of multiculturalism by way of emotional engagement with multiple cultural agencies, taking into account both personal experience and history and at the same time allowing for a movement guided by freewill. Indeed, Falabella's music composition as a listening to echoes through silence is both embodied in real experience and inviting a dialogue and appropriation of diverse cultures, always reminding the silence that sustains the dialogue.

5   Juan Luís Martínez: transduction loops

The approach taken by poet Juan Luis Martínez offers a similar conclusion to Falabella's in relation to the creole experience. Yet, his conceptual poetry deals with a different set of resources that are better understood through acoustic phenomenons such as transduction. Martínez poetry is a conceptual practice that deals with the disappearance of the author. Throughout his work there is distancing himself from the poetic text he produces and an allowing of an otherness to inhabit the work. In this sense his poetry relates to a tradition that spans a good part of the twentieth century and that could be traced back to Mallarmé's Un Coup de Dés. Undoubtedly this interpretation of his work is valid and has been well documented elsewhere. (See the recently published *Martínez total*)

In relation to the creole experience, what interests me is how Martínez is able to maintain this death of the author and at the same time do it in such a way that keeps him ironically present. Commenting Martínez's best known work *La Nueva Novela,* the poet Raúl Zurita highlights the complex interplay of Others through which the author dissolves and only gives a secondary importance to the 'joke about identities' present in the work (Zurita, 2016). The comic layer of Martínez work has been brought into the surface by the discoveries of Scott Weintraub regarding Martínez posthumous publication from 2003 *Poemas del Otro* or *The Other's poems*. (Weintraub, 2016: 211-221)

For a reader familiar with Martínez work, this collection of poems immediately seems odd. Martínez poetry usually utilises symbolic images, abstract visual compositions and collage. In *Poemas del Otro* there is no use of any of these resources, or of any other experimental approach to poetry writing. Beginning in 2013 and after some brilliant detective work,

Weintraub discovered that these poems are actually not written by Juan Luís Martínez but by a swiss-catalan writer of the same name. The Chilean Martínez translated them from french and published them without any mention to the Swiss-Catalan Martinez.

Poemas del Otro are then literally the poems of an other author. The unveiling of this, provides a powerful insight into the irony at work in Martínez poetry. This work is both a masterful expression of the disappearance of the author and also provides the basis for its subsistence. Indeed, to make the joke evident, the Chilean Juan Luís Martínez survives in the text as an author non-author. Through the joke the text becomes the circular experience of the author becoming the non-author, who in his turn becomes the author in an infinite chain. Thus the joke is experienced as a feedback loop that both creates and destroys authorship.

The appreciation of this feedback is guided through a reading of Martínez poetry that could be compared to acoustic transduction. Stefan Helmrich states that "transduction names how sound changes as it traverses media, as it undergoes transformations in its energetic substrate (from electrical to mechanical, for example), as it goes through transubstantiations that modulate both its matter and meaning." (Helmrich, 2015: 222) Transduction is a "cultural artifact" (Helmrich, 2015: 223) as for example when "with the amped up loudspeaker, the listener experiences transduction on the dance floor" (Helmrich, 2015: 224). As such, transduction has a "dual identity" that promises "to unite the material with the semiotic"(Helmrich, 2015: 223).

Throughout Martínez work, such a process of transduction is constantly at work. For example, in *La Nueva Novela,* the visual distribution of black sheep in a page should be understood as a sonnet. Even more, the sonnet should be understood as a denunciation of a massacre of fifteen farmers at the beginning of the military regime in 1973 (cf. Cussen, 2016: 255). This process of constantly challenging the given nature of all elements, transubstantiates energy through them. In this process, the expectations about what something is are in constant flux. There is no room for fixed boundaries and clearcut delimitations. Everything is flowing in the non-stoppable transduction of energy. The author has disappeared from the text and at the same time remains in it on a feedback loop of transductions.

Regarding the multicultural creole experience, I believe this approach of transduction allows for a freedom of movement through different elements, without being fixed to any of them. Yet as an energy flowing through them, there is a always a common bond. If we see the author as the cultural root, as the origin from where the transduction begins, then we can listen to how the root leaves the origin as it is transformed into different expressions, however this origin remains present in a feedback loop that always traces back to it, even though if it is changed every time. As such, the energy that transduces through different mediums could be understood as the invisible identity of the criollo.

6 Conclusion: the menace of the earthquake

I have analysed both Falabella and Martínez as examples of the invisible nature of the Chilean criollo as a position that both is and is not. Through the sonic notions of silence, echoes, transduction and feedback, I believe a listening is possible of this creole identity. This listening allows for a creole experience that combines the freewill of the radicant, a dialogue between cultures and the inalienable history of the body.

Both Falabella and Martínez are great examples of artists that are able to apply this listening to their practices. Some other artists such as Violeta Parra and Los Jaivas among others could also be considered along these lines. On this paper it is not my intention to do an exhaustive analysis of every artist that could be considered as listening to the Chilean criollo. However I would like to end by speculating about the importance of the Andes mountains to develop such a listening. I believe the Andes mountain plays an important role in breaking down hierarchies and destroying what is taken to be solid and permanent. At the same time, it is a material presence that has witnessed and has been instrumental in the historical and cultural development of the region.

Firstly, on a symbolical level, there is a strong relationship between the Andes and the great divide metaphor described by post-modern theory. The great divide is a metaphor for the division between high/low culture in Western Art (which could also be extrapolated to West/the-rest-of-the-world)(cf. Taylor, 2002: 94). The great divide is not only that metaphor, but in the American continent, it is the name for the principal, and largely mountainous, hydrological divide. Its most notorious mountain range is the Andes mountains. This natural division has been used by modern nations such as Chile and Argentina to delimitate their territories. However, before the fall of the Inca empire, these same mountains instead of being a great divide was the trail that unified the empire through out South America. These opposed uses of the great divide, both as a division and a unification of territories, perhaps helps the criollo to understand its position as a experience of both abolishing divisions and at the same time building from them. Secondly and for me more importantly, in the Chilean territory the Andes is also the permanent menace of the earthquake. This is a menace of destruction of all that is static and fixed. It is a menace that arises from realising that solid ground is not solid, that rock is not rock. It is the invisible menace of the sonic upon the suppositions of the visual. The listening of the criollo is inextricably tied to this invisible menace of the earthquake.

The criollo as an invisible position/non-position that is born out of the interaction of colonisers and colonised, as a silence that sustains this interaction or as an energy substrate that transduces between colonisers and colonised, is in itself the underlying menace of the earthquake. Whatever present form the solid has taken, this is only so as long as the earthquake has allowed it.

Although throughout this paper my focus has been in Chile, I believe that similar conclusions could possibly be arrived upon from experiences in other parts of the world. What I described here could be valid for a larger population through-out Latin America and beyond. Even more, my attempt at describing the criollo in sonic terms that present a displacement of dualities of identity/non-identity makes it not the description of a race or of a nation, but a positive understanding of a human experience. From listening to the criollo experience as the menace of the earthquake, we can discover possible ways of behaviour,

both allowing personal paths built through freewill and the dialogue of multiple options yet at the same time embedded in cultural context, history and corporeal presence. For me, this take on identity seems particularly valid for the current times. We have a society capable of moving beyond fixed categories of culture, identity or gender and at the same time we have a growing intolerance for religious beliefs and ineffable differences between peoples of different parts of the world. The menace of the earthquake seems to be perhaps an effective way to establish a dialogue between these opposing tectonic plates of our global society.

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6. The sound beyond sound: virtual ontology and de-territorialized sound

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Abstract: This paper discusses the mutual relationship between the concepts of sound and listening within a paradigm of the *sound-as-text*. For doing so, I present here a reading of this concept of sound-as-text as it is presented in the book *In the blink of an ear: toward a non-cochlear sound art* (2009) by Seth Kim-Cohen articulated with what François Bonnet writes about the "modelizations" of sound in *The order of sounds: a sonorous archipelago* (2012). There is a continuity between the two perspectives especially in respect to the sound perception. However, Bonnet problematizes focusing exclusively on the non-cochlear level when it does not enacts (even abstractly) the experience of materiality and plasticity of sound and/or listening. The balance between these two perspectives is found on Bonnet's reading of an installation by Joseph Beuys. From this perspective, this installation would be able to enact a "differential exercise" of the sensibility. In this sense, the "non-cochlear" approached could be read in its relation to a "transcendental empiricism". The result of this approximation would be an "expanded field" of sound, in which it moves itself within a virtual ontology where *listening* is a matter of readability. To hear the *parergonal,* as we will see.

1 Introduction

Just as it happened with several other human activities in the last decades, "listening" has been signified, understood and proposed as a sort of a "good", to which an exchange value is attributed. I can sell to you my listening service, and not only as shrink or a spy, but as an artist. This artistic listening is valued as being differentially qualified, and you buy it as such. In other words, there is a convergence between a new meaning of listening in the context of a world of art and the transformation of this activity in a commodity. Just as travelling, walking, thinking were before, listening has today a new status within the socio-political-economic field. This paper deals indirectly with this process of *commoditification* of listening, because it does not set the focus directly on this question. It focuses on a concept instead. A concept that addresses listening in its aesthetic, ecologic and intellectual dimensions. The concept of sound-as-text.

In its aesthetic sphere, the most common synonym for "listening" was that of "musical listening", and it was in the musical and musicological discourse that it was raised as a question for speculative thought. However, the aesthetic modality of listening goes far beyond listening to a musical piece nowadays. The reasons for this non-restriction with regard to the musical object are articulated in two main levels: the pragmatic and the semiotic (Deleuze/Guattari, 1980: 140-184). The pragmatic level concerns the kinds of materiality with which the human body assembles itself in order to perform listening; the semiotic level concerns the conditions of intelligibility, the referential systems, symbolic

grids and regards of signs through which listening is performed. This *double-bind* presupposes listening as being simultaneously a material and an intellectual activity, articulating itself *necessarily* through these two levels.

This double-binded "image" of listening puts into action two theoretic consequences: 1) a refuse of the reducing "sound" and "listening" to its purely physiologic material terms; and 2) working on the thesis that there is no listening outside history: every listening is historically, and therefore, materially and politically situated (Szendy, 2001). The aesthetic circuit of listening and its relevance as being an activity *per se* was became a subject recently in the history of western thought. Most recently, it can be noticed that not only listening has become a speculative subject in the fields of theory, but also the theoretic thought itself began to look at its objects through the lens of the audibility and the "aurality" (Ochoa, 2014). Different versions of the sound studies methodologies reflects in the objects they mobilize the basic features of what Peter Szendy (2001: 127) referred as a "critic culture of listening", i.e. a culture in which people exchange between themselves the signs of its listening. In other words: a culture where one transmits his or her listening to another, and this transmission is made through writing, be it comments on a web-page, be it through musical score. This exchangeability of listening is one of the great themes of Szendy's book, through which he approaches the arrangement as a musical practice, and the arranger as someone who writes, notes, *signs* his or her own listening (Szendy, 2001: 117).

In this context of a culture of listening leaving behind its own traces, the methodological game of comparing epistemological systems – a game usually played in several fields of the social sciences – becomes a relevant maneuver to be done also in the field of sonology. Between practices of musical re-elaboration (such as arrangements, re-writings, adaptations, etc.), sound studies and sonology, what has been left to us is a whole landscape of listening "images" (Deleuze, 1968) made out of several different conceptual descriptions, mathematic codifications and poetic proposals. This landscape is recorded in text, audio, video, i.e. *listening* is recorded in oral, textual and audiovisual media.

2 Kim-Cohen and the parergon

The cultural scenario in which this *trace* is already a fact is a culture where listening became an object of poetic creation while audibility became an object of theoretical production. In this context, the very notion of sound becomes unstable, requiring a re-balance under new conditions. This cultural process enacts the emergency of different versions of what appears to be the same idea: the *sound-as-text*.

This name appears literally in Seth Kim-Cohen's *In the blink of an ear: toward a non-cochlear sound art* (2009), where it works as the central concept for the identification of a space of praxis for a non-cochlear sound art (Kim-Cohen, 2012: 157). "Non-cochlear" goes for a set of discursive practices dealing with both sound and aural culture, but which are not made of or through, but *about* sound (Kim-Cohen, 2012: 107).

Through this reading key, Kim-Cohen manages to deploy an undercurrent reading of some artworks as situating them in the field of what he calls an "expanded situation of sound" (Kim-Cohen, 2009: 42-49; 58-60; 78). This "situation" is based on the idea that the sound perception does not accomplishes itself in relation to an immediate object in-itself. Instead, it is inexorably traversed by discourse and mediated by meaning. (Kim-Cohen, 2009: 81). This necessary mediation of meaning is the main point underlining the critic of the essentialist ontology in the phenomenological thought. According to this author, notions such as the sound in-itself, manifestation of the thingness of something, a "presence in the now" are in the basis of an unquestioned acceptation of the artwork as being a "natural sign". This presupposition are strongly refused by Kim-Cohen in favor of positioning the art production as being a construct situated in the pragmatic field of semiotic commerce, the constant exchange of signs and materiality. Thus, as being signifying constructs, *texts* (Kim-Cohen, 2005: 79).

Such critical perspective puts into action the idea of an "expanded situation" in which both the conceptual scope and the very definition of the idea of sound are beyond an object that can be isolated, parameterized and quantified through its physical criteria. However, Kim-Cohen does not take the opposite direction, which would lead to conclude that once an object is not quantifiable, it could only be ineffable (i.e. a thing upon which nothing can be said). Therefore, one can say that the approach to sound proposed by Kim-Cohen does not deal with the actual sound (i.e. the sound integrally concreted in its materiality), but it does not accept the ineffable as well. The "non-cochlear" approach points to the virtual aspects of sound, i.e. a dimension that is real without being actual (Deleuze, 1966). What is exactly this virtual dimension? In general, words, it is a set of signifying layers made possible by the actual through the whole history of materiality, and which folds back upon the actual, which is implicated in it.

For referring to this – among other things – discursive layers enveloping the actual object, Kim-Cohen does not use this terminology of the virtual, but that of the *parergon*. The author refers to Jacques Derrida's concept of the *para-ergon* as a key for reading what is beyond [*para-*] the thing itself, but which envelops it constituting its situation and meaning in a pragmatic fashion. In Kim-Cohen's words, a set of "connotations and indications that surround, inform and constitute the *Ergon* (work): the thing-itself" (Kim-Cohen, 2009: 229). From this perspective, "it is from this *parergonal* material that a non-cochlear sound-art constructs itself" (Kim-Cohen, 2009: 229). In short, what we have in the non-cochlear approach is less thing-in-itself and more problematic of sense, less manifestation of being, more mediation of meaning.

3 François Bonnet: Modelizations

In the book *The Order of Sounds: a Sonorous Archipelago*, originally published in French in 2012, François Bonnet (2016) deals with the continuous production made in the field of culture of what he calls "modelizations of sound". The section titled "Modelizations" approaches different modes of *textualizations* that configures the facticity of sound in the context of an audio culture, through the continuous generation of parametric mappings and taxonomies regarding sound. The gamut of modelizations is wide and it is made out of variety of discourses from the scientific to the poetic, passing by the criticism, in a trans-disciplinary fashion.

In this section, Bonnet approaches a heterogeneous set of objects, including the project *SemanticHIFI* initiated by IRCAM, Cristian Marclay's poetic thought, and the installation PLIGH by Joseph Beuys. Although each one of these works operates in different contexts, through different contents and criteria, each one of them provides a material expression that addresses the perception of mental models that configures the action of the sensibility and, by this route, the construction of the perceived object.

The "Plasticity of Sound" features, with its own words, that notion of sound-as-text. Commenting on Cristian Marclay's work, Bonnet quotes Catherine Malabou, for whom there is a necessity to approach the notion of *plasticity* under a conceptual meaning (Malabou, 2000:80; Bonnet, 2016: 233). Thus, Bonnet states, "the notion of plasticity implies a new relation to sound", for "as material, sound becomes *manipulable*" (Bonnet, 2016: 233). A handleability characteristic of an audio culture, constituted by a diversity of media and codes that translates and transduces – I.e. *textualizes* – sound.

This process of textualization of sound passes through a diversity of taxonomies, forming a heterogeneous field of nomenclatures varying in vocabulary and regions of discourse. For example, in the context of music theory and perception, the *solfège* [sight singing] works as a musical technology that can operates through several different taxonomies. However, there is also a whole set of parameterizations that are not accomplished by the *solfège*, but which are significantly actives in software building and artificial intelligence, constituting the ability of non-human agents to perceive and to response to sound. The facticity of softwares perceiving and acting over sound in real time is nothing new. The point here is that, whichever this software is and wherever it is produced, its capacity of agency will depend upon its sensorial and interpretive keys, i.e. its vocabulary, its taxonomic groups, its *solfège*.

Despite the differences between the kinds of discourses and parameterization modes, the point is the accomplishment of a *perceptive performance* made from a basic ability of *placing-into-sign:* a "placing-into-sign of the sonorous" (Bonnet, 2012: 232). Be it in the context of human or non-human perception, this joint modelization of both the material and the sensible affirms a situation in which the experience of sound perception "is no longer a question of sound, but of a *model* of sound" (Bonnet, 2012: 229). Thus, this *modelization* is not only a cultural process made over the sound, but also over listening. Concerning listening, the French philosopher Jean-Luc Nancy states that listening aims at – or is aroused at – the [tendency] where sound and sense mix together and resonates in each other, or through each other (Nancy, 2002: 25-26). In continuity with this thesis, Bonnet states that "any systematization of the object of listening is part and parcel of the process of listening itself" (Bonnet, 2016: 230). Thus, we can conclude here that *listening articulates itself through a repertoire of models*. The corollary of this conclusion is that the activity of listening not only respond to or recognize an external object: it prompts itself to the object while provided with its own repertoire, its own interpretative keys, in short, with "*coordinates* that belong to a normalized referential system" (Bonnet, 2016: 239) which art internal to the auditory activity itself.

Thus, a discourse on listening should deal with the problem of interrogating its object form the viewpoint of its own conditions of performance. For after being turned into an object of

artistic speculation, the aural activity has gained layers of virtuality, from which it from which it came to be thought of as a semiotic performance responding to certain conditions, symbolic grids and referential systems. In short, the problem of listening is placed today in the terms of its conditions of *readability*. This *image* (Deleuze, 1968) according to which listening appears as a performance working through its own conditions of readability responds directly to that "expanded" concept of sound, the *sound-as-text*, for the ways of mapping of referring to this mental models can be configured in several different systems of signs other than the sound.

In this sense, Bonnet put the focus on the ideas of plasticity and materialization of sound, which works as reading keys for thinking the concept of sound in this "expanded situation", i.e. according to its textual meaning, disperse in other systems of signs. The modelization processes, therefore, is made outside sound, but acting over it, transforming it materially and qualitatively. Thus, there is a process of transformation of the concept of sound constituted by the action of non-sonorous agents.

4 Reassignment of Material and Space

In this sense, we can notice a convergence between Kim-Cohen and Bonnet's writing, but there is a nuance in Bonnet's text for which I would like to draw attention here: Kim-Cohen criticizes the fixation on both the materiality and the ineffability of sound-in-itself, in its turn, Bonnet criticizes the fixation on the dimension of the *models*. From the latter perspective, although the listening activity is constituted by a repertoire of models of legibility, to guide the perceptual experience only through these models can result in impoverishing and counterproductive effect on the experience in question.

Bonnet argues for a balance between the emphasis on the dispersion of sound in the discourse and modelization, and the emphasis on the concrete activity of listening confronting the material (even if it is silence). Bonnet understands the installation titled PLIGHT by Joseph Beuys as being an instance of this balance. According to him, PLIGHT promotes an interference on the circuit of aural experience through a reassignment of the categories of material and space. To the author, this works manages to build a situation in which "perception itself *makes the work*" (Bonnet, 2016: 238), in other words: it puts perception in the situation of being the performer.

In Beuys's words, this work articulates and activates "an extreme position, the really transcendental position of production in general" (Bosseur, 1992: 80), making clear the link between the notions of audibility and production, through the categories of space and material. The focus in the category of *production* allows the approximation with what in philosophy was treated in terms of a "transcendental empiricism" (Deleuze, 1968), i.e. a differential exercise of the faculty of sensibility [aesthesia], so that it can be in the situation to grasp what could not be grasped according to its habitual mode of operation. Moreover, the "transcendental exercise" of this faculty could make sensibility seize a content that relates to its own modes of operation.

According to Bonnet's reading of PLIGHT, this work accomplishes to position the perception in its plastic capability to simultaneously produce and perceive audibility, i.e. to *materialize perception as an instance that materializes sound*. Although it does not provide any sound to be heard, PLIGH is presented as being "an authentically plastic thinking of sound – authentically plastic because it *materializes* sound, in a materiality that reveals itself not through a model that supposedly describes it, but through one's sensible experience of it in the work" (Bonnet, 2016: 239).

"One's sensible experience" of sound, even it is triggered by other kinds of signs, other materials, even if it is not provided a sound object to be perceived. In so far it focuses on the performative capacity of perception itself, and not in an exterior material to be recognized, the notions of materiality and plasticity of sound are put in evidence, but in the context of a dispersion - in *fact* and in *law* – of the sound in the field of discourse. Thus conceived, "sound" appears as something that is also located and developed "in the direction of symbolic or referential field" (Bonnet, 2016: 239). In its turn, this location development are made possible "by the modelization of sound by the adjunction to sound of *coordinates* that belong to a normalized referential system" (Bonnet, 2016: 239).

5 Conclusion

Thus, we have a "sound" beyond sound. An expanded concept of sound based on both historical intellectual and material consciousness from which the sound is *virtualized* and thus requires approaches addressing not only its physical, material and metaphoric attributes of a sound-in-itself, but a plurality of signifying layers that hover over it, and in which sound is dispersed configured. In other words, there is an integral social field that necessarily mediates and configures both the concept and experience of sound. In this sense, the notion of sound is virtualized, gaining a set of curiously complementary new meanings: for either there is sound where sound is not in; as there is much more than the sound where it is. Sound Arts takes charge of deploying this new virtual (read up, ontological) status of sound positioning it as both a key for reading and interpreting a social field and a practical instance for social transformation. In short, sound-as-text appears as a significant concept in the context of a new ontological status of the sound, in which it ceases to be conceived under its physical and subjective features, to be read also as part of a social formation. From this perspective, the readability of sound implies its insertion within *Diagram* (Deleuze, 1986), i.e., a socio-cultural formation from which it (the sound) receives *a* meaning and *a* value.

In this sense, if it does not want to reduce its theoretical scope, a sonologic discourse should be aware of this "non-cochlear" or textual dimension of sound. The supplementary (virtual) levels in which the sound is not territorialized in its own physical materiality but *de-territorialized*, or more precisely, the constant condition of being re-territorialized in other contexts formed within the social field. A vocabulary composed of words such as "ontology", "virtual" and "de-territorialization" may seem, at first glance, referring to esoteric ideas or exorbitant abstractions, but closer looks can reveal them as reading tools for a pure pragmatism of use.

The sound-as-text is a sound that does not belong to the referential territory of the opposition between "musical sound" and "noise". It does not participate in this distribution of words and things, this *episteme* (Foucault, 1966). It is therefore a notion coming from another framework of meanings, requirements and urgencies, another social, intellectual and material context. The notion of sound-as-text relates to the audio culture, the sonic warfare culture (Goodman, 2010), the culture of vibration, as well as it relates to the active sounders from previous social formations, such as music, for example. For reasons like these, reasons that are not musical nor sonorous, the concept of sound circulates not only within the noise binomial and non-noise, but also within a range of referential systems and systems of signs. Thus, sound puts into question both the practical and theoretical challenges of a trans-mediatic readability, beyond the sound-in-itself.

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17. Narratives of Listening: Crossovers Between Literature and Sound Studies

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Abstract: This paper will explore how narratives of listening have been incorporated into sound studies' analyses over the last three decades. By narratives of listening I mean narratives borrowed from literary works whose focus lies primarily on sound or in which "auditory images" are privileged. The mobilisation of literary instances for the purpose of investigating sound and listening predates the establishment of a field of inquiry named sound studies, as Pierre Schaeffer's *Traité des objets musicaux* exemplifies. In his treatise, Schaeffer analyses an excerpt from Max Frisch's *Homo Faber* in order to account for the oppositional pair *écouter-entendre* (listen-hear), which lies at the heart of his theory of listening. With the rise of sound studies, investigations into sound and listening as represented in literary texts became widespread. Literature became an invaluable source of information for those who endeavoured to write histories of sound, such as the case of Douglas Kahn, and John M. Picker. For a long time, however, literary narratives fell short of engendering a theory of sound and listening of their own, having merely served to illustrate theories and meditations exogenous to them. An examination of the multiplicity of sound studies' engagements with literature, however, demonstrates an ever-increasing use of fictional narratives for theoretical purposes other than exemplification. In this sense, literature seems to advance our knowledge of sound and listening in ways that only literature could do. In order to discuss the ways in which literature has contributed and can continue to contribute to sound studies, the present paper will focus on four different uses of literature in sound studies, each example being representative of its decade of publication: (1) Schaeffer's 1966 anticipatory and paradigmatic incorporation of literature into the *Traité des Objets Musicaux*; (2) Kahn's 1992 introduction to the edited volume *Wireless Imagination*; (2) Picker's 2003 *Victorian Soundscapes*, (3) Brian Kane's analysis of Kafka's tale 'The Burrow' in his 2014 *Sound Unseen*.

Keywords: Literature, Sound Studies, Pierre Schaeffer, Douglas Kahn, John M. Picker, Brian Kane, functions of listening, figures of sound, soundscape, acousmatics.

1 Introduction

Literature has been incorporated into sound studies in myriad ways, and a systematic account of these mobilisations is still to be given. The present paper, however, does not aim to undertake a thorough investigation into such uses of literature, neither from the perspective of methods nor from a historical angle. This paper will comment, instead, on how four authors associated with what came to be identified as sound studies turned to literature in order to elucidate problematics of sound and listening. The argument will be expounded in four sections, each one corresponding to a paradigmatic view on literature. In the first section, a brief analysis of Pierre Schaeffer's somewhat anticipatory and archetypal use of an excerpt from Max Frisch's *Homo Faber* reveals how literature helped to define Schaeffer's pivotal function of listening: *entendre*. In the second section, a turn to Kahn's introduction to the volume *Wireless Imagination* explains the process by which sound and listening are historicised by means of sonic tropes. In the third section, a reading of John M. Picker's *Victorian Soundscapes* underscores his more narrative conception of soundscape as a plurality of discourses and demonstrates how literary mechanisms intersect with acoustic worlds. Finally, in the fourth section, an examination of Brian Kane's reading of Franz Kafka's short story "The Burrow" indicates that literature,

alongside scientific or philosophical inquiries, provides its own productive, informative, and thought-provoking accounts of sound and listening. Through a suggestively comparative examination of these four texts, I evince the gradual shift that took place in sound studies, whereby literary texts stopped being used simply to exemplify theories alien to them and started being used as a source of novel forms of thinking about sound and listening. Finally, this reading contributes to an account of the historical development of sound studies as a field of scholarship.

2 Literature Illustrating the Functions of Listening: Pierre Schaeffer and Max Frisch

French telecommunications engineer, musicologist, composer, writer and sound studies pioneer Pierre Schaeffer (1910-1995) structured out his theory of listening in his *Traité des objets musicaux: essai interdisciplines* (1966). His theory proposes that listening should be understood as a multi-functional mechanism, by which he means an instrument that carries out functions. Akin to language, which according to functional linguistics is primarily an instrument of communication,[1] listening would correspond to a circuit of sonic communication, stretching from emission to reception (Schaeffer, 1966: 113).[2] Functions do not imply a sequence of perceptual stages, but a number of activities proper to listening, each one characterised by a particular goal and intentional status: "Our intention here is not to decompose listening into a chronological sequence of events ensuing one from the other as effects follow causes, but, for a methodological purpose, is to describe the objectives corresponding to specific functions of listening" (Schaeffer, 1966: 112). Retaining four of the fifteen definitions of *entendre* given in *Littré* (the etymological one, and those corresponding to the definitions of the verbs *écouter, ouïr,* and *comprendre*), Schaeffer explains listening by disclosing the connection between intention and intentional object proper to each of these four verbs.

Crucial to his theory is the function *entendre*. *Entendre* — untranslatable in its polysemy — is the verb upon which Schaeffer"s theory is erected and the function that holds the etymological sense: "to tend towards, and hence, to have the intention, the design of" (Schaeffer, 1966: 103). Schaeffer notes that the function *entendre* comprises a twofold process of qualification consisting of *involuntarily qualified listening* a n d *voluntarily qualified listening*, according to a distinction I draw.[3] Their common feature consists in operating by qualification. *Entendre* is employed by Schaeffer chiefly in the sense of listening out for something, yet it exceeds the aural-related sense, insofar as it also means tending-towards (understood by Schaeffer in both its etymological and phenomenological senses). Besides, the act of listening out for something does not do justice to all the varied forms of agency involved in the act of *entendre*, since therein the agency of the listener

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1 Functional linguistics is referenced throughout the *Traité* (see Chion, 1983: 179). Central to the notion of functions of listening is André Martinet's *Éléments de linguistique générale* (Paris: Armand Colin, 1960). When discussing language as instrumental function, Martinet notes that 'the designation of a given language as an instrument or tool focuses attention on what distinguishes language from many other institutions. The essential function of this instrument, if we regard any given language as such, is communication' (1964: 18).

2 All translations are mine unless otherwise indicated.

3 The distinction between voluntary and involuntary qualified listening mirrors Marcel Proust's involuntary and voluntary memories. For an extended discussion on the correspondences between Schaeffer's ideas on listening and Proust's conceptions of memories see Igor Reyner's "Pierre Schaeffer e Marcel Proust: As Expressões da Escuta" (Unpublished master's dissertation: Federal University of Minas Gerais, 2012).

ranges from fairly passive to highly active levels. As a function, *entendre* qualifies an object to the same extent as it is an object of qualification itself.

In order to explain how *entendre* operates, Schaeffer places it in a dual opposition: *ouïr-entendre* and *écouter-entendre* (which, as Carlos Palombini suggests, can be translated into English as hear-listen and listen-hear respectively (1993: 32)). Hear-listen (involuntarily qualified listening) occurs as a response to the fact that "it is practically impossible for me not to make a selection from what I hear" (Schaeffer, 1966: 107). All aural apperception will be, therefore, selective to some extent. A background noise can only be perceived as background if embedded in an organised set of perception, within which background noise takes on meaning by opposition to a foregrounded sound or sonic event. Hear-listen, as Schaeffer explains it, describes the fact that as soon as attention is drawn to our sense of hearing (for instance, when I do not move, close my eyes, and empty my mind), "I place the noises, distinguishing for instance those which are near from those which are far, and those coming from the outside from those coming from the inside; inevitably, I start favouring some in relation to others" (Schaeffer, 1966: 107).[4] In contrast, the oppositional pair listen-hear (voluntarily qualified listening) describes a fully intended selection in listening whereby "I listen in order to hear, be it because I ignore the source of the sonic object, what obliges me to move on to its description, be it that I want to ignore its origin and take exclusive interest in the object" (Schaeffer, 1966: 108). "J'écoute pour entendre": *entendre* is constantly a source of contention and ambiguity, insofar as it accepts multiple interpretations. Accordingly, this statement reads in at least two ways, as both "I listen in order to hear" and "I listen in order to understand". Within this context, Schaeffer's turn to literature in the *Traité* takes place primarily as an attempt at clarification.

Schaeffer quotes two episodes from a series of narratives of listening in the novel *Homo Faber*, which was first published in German in 1957 by Swiss playwright and novelist Max Frisch. By doing so he expects to illustrate the functioning of the inexhaustible, continuous process of qualified listening (*écoute qualifiée*),

> whose diversity therefore stems from an essential law of perception which is that of proceeding by way of a series of ensuing "sketches", without ever exhausting the object, to the multiplicity of our knowledge and previous experiences (according to which the object presents itself immediately imbued with different meanings and significations), to the variety of our intentions of listening (Schaeffer, 1966: 109).

Frisch's narrative of listening is given as a 'characteristic example' (Schaeffer, 1966: 109) of such perceptual procedure of (voluntarily) qualified listening:

> Every morning I was woken by a curious noise, half mechanical, half musical, a sound which I couldn't explain, not loud, but as frenzied as crickets, metallic, monotonous; it must be mechanical in origin, but I couldn't guess what it was, and later, when we went to breakfast in the village, it was silent, nothing to be seen.
>
> … It was Sunday when we packed… and the queer noise that had woken me every morning turned out to be music, the clatter of an antiquated marimba, hammer taps without resonance, a ghastly kind of music, positively epileptic. It was some festival connected with the full moon. They had practised every morning before going to work in the fields, so that now they could play for dancing,

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4 Translation by Palombini (1993: 36).

five Indians who struck their instruments with whirling hammers, a kind of wooden xylophone, as long as a table (Frisch, 1959: 38 & 44).[5]

Frisch's excerpt is followed in the *Traité* by a two-paragraph long analysis of it, which represents Schaeffer's most substantial and explicit incorporation of literature into his theory of listening:

> The two descriptions clearly match: frenzy, monotony and hammer taps, rumour and absence of timbre, metallic sound and hammer-blows on a xylophone. From his bed, every morning, and then from outside when he is about to leave, Walter Faber virtually heard [*a ouï*] the same thing.
>
> We would not say the same about what he listened to [*a entendu*]: In the first scene, he heard [*entendait*] a *sound*, whose cause he tried to *work out* [*s'expliquer*]; in the second scene, informed of the causes, he *appreciates* [*apprécie*] a piece of *music*. As a result, what was only "odd" [*curious* in the English translation, and *bizarre* in the *Traité*], becomes "frightful" [ghastly in the English translation, and *effroyable* in the *Traité*]. The "frenzy" that appears in the first scene simply as a descriptive analogy (our hero does not even think about directly attributing it to the crickets) is more powerfully perceived when it is revealed to be the result of a furious instrumental activity, becoming "positively epileptic". In contrast, the monotonous hammering, which could evoke a piece of machinery, becomes less perceptible. Having managed to *qualify* listening, Walter Faber began to listen out for [*entendre*] and then to understand [*comprendre*] according to a precise signification (Schaeffer, 1966: 109-10).[6]

Schaeffer finds in literature a characteristic depiction of a qualified listening. By means of adjectives and objects, he arrives at the functions, which are expressed by the verbs at play. And even though the four verbs of listening are not explicitly used, they still govern, as functions, the verbs used by Frisch. Besides, in moving from adjectives and nouns to verbs, Schaeffer announces aspects of his theory that will be developed later in the *Traité*, such as that "there is no verb [of listening] without object" (Schaeffer, 1966: 148). His analysis, though brief and incipient, opens up a new line of inquiry by suggesting that studies devoted to listening can benefit from literature's ability to describe auditory behaviour. Schaeffer's enterprise, however, is a one-way street, since he demonstrates how literature can shed light upon listening, but does not mention the role played by the narrative of listening in Frisch's novel. Literature offers a glimpse of how listening functions. However, listening is not at all treated as a literary category. Schaeffer's use of literature, for instance, does not indicate why literature is more suitable for illustrating his ideas than would be an example borrowed from everyday life.

3 Figures of Sound: Douglas Kahn and the History of Sound in the Arts

In 1992 Douglas Kahn published "Histories of Sound Once Removed", introduction to the collective volume *Wireless Imagination: Sound, Radio, and the Avant-Garde*, which he edited alongside Gregory Whitehead. Therein, Kahn discusses the challenges of writing

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5 Here I give Michael Bullock's translation to the same passages quoted by Schaeffer.

6 The Bullock's translation into English and Schaeffer's analysis, based on unidentified translation into French, are slightly incompatible. For instance, Schaeffer's French translation gives "martèlement sans timbre" in lieu of "hammer taps without resonance", and "rumeur" instead of "sound".

the history of sound in the arts (Kahn, 1992: 1). Biased towards artistic expressions associated with sound reproduction technologies, he affirms that "literature on the arts of recorded and broadcasted sound, and of conceptual, literary, and performative sound, is scant at all levels, from basic historical research to theoretical modelings" (Kahn, 1992: 1). This is due to three major problems: the absence of "artistic practice outside music identified primarily with aurality" (Kahn, 1992: 2); "the privileging of music as the art of sound in modern Western cultures" (Kahn, 1992: 3); and the difficulties of "merely thinking about sound within a culture that so readily and pervasively privileges the eye over the ear" (Kahn, 1992: 4). To address this triad of problems he devises a twofold method, whereby he "will first point to various artistic links to sound recording technologies and then propose a schema of three figures of sound operative in the arts since the late nineteenth century" (Kahn, 1992: 4).

Although these two lines of inquiry encompass a multiplicity of artistic forms and currents (and their ultimate goal is to afford a way of historicising sound), literature surprisingly takes precedence in Kahn's discussion, as his abundant use of literary examples attests. Stretching from François Rabelais's *paroles gelées* (*Quart Livre*, chapters LV & LVI) to William Burroughs's novels and experiments via French Symbolism and Russian Modernism, references to literature substantiate Kahn's major claims. He mentions, among others, Villiers de L'Isle-Adam's *L'Ève future* (1886), Marcel Schwob's "La Machine à parler", from *Le Roi au masque d'or* (1892), Alfred Jarry's "Phonographe", from *Les Minutes de sables memorial* (1894), Maurice Renard's "La Mort et le coquillage" (1907), Raymond Roussel's *Locus Solus* (1914), Velimir Khlebnikov's 'Ka' (1915), Guillaume Apollinaire's "Le Roi-Lune", from *Le Poète assassiné* (1916), and André Breton's "Ode à Cahrles Fourier" (1947). By evincing a keen interest in literature's engagement with sound, he simultaneously posits literature as an art form deeply grounded in aurality, and challenges both music's monopoly over aestheticised sonic experiences and the hegemony of vision in the realm of literature and literary criticism. Besides, Kahn's method is partially indebted to literature, insofar as its roots can be traced back to a long-standing and multifarious literary and philosophical tradition that stretches from ancient rhetoric to narratology and structuralism. So, in order to outline the history of sound in the avant-garde, he turns to the notion of figure and proposes to peg sound either to *figures of a more concrete character*, associated with technologies that have not only abstract currency as concepts but also possess their own history as physical devices, and to *figures of a more abstract character*, such as vibration, inscription, and transmission (Kahn, 1992: 14).

Each of Kahn's lines of inquiry discloses a particularly interesting aspect of literature's contribution to thinking about sound and listening, especially in historical terms. In the section "The Technological Record", Kahn investigates "the familiar figure and functioning of the phonograph, or of any technology for that matter" (Kahn, 1992: 14). He addresses mainly the relation between practical applications and conceptual implications of phonography, laying great emphasis on the conceptual aspect of this equation. His focus lies primarily on how literature depicted and accounted for phonography's future even before the phonograph itself could reach maturity: "the ideational mission of the phonograph, in fact, totally outstripped any practical application for decades to come, for its conceptual implications were much more accessible, mobile, and workable than its actual mechanics" (Kahn, 1992: 5). In this context, literature arise as a privileged source of

information about the phenomenon of phonography, mainly because representation outdid experience — the *representation* of the newly invented technology anticipated, surpassed, and even conditioned the *experience* of it. Hence, Kahn gathers short stories, novels, poems, and manifestoes, ranging from more faithful accounts to far-fetched narratives, to evidence the ideological construction of phonography. The figure of the phonograph emerges alongside literature, therefore, in a number of literary forms and touching upon a gamut of issues. Thus, literature comes to the fore when Kahn speaks of conceptual and literary sound (Kahn, 1992: 1), points out the issues of orality and literacy (Kahn, 1992: 5), talks about the acts of writing and representation related to phonography (Kahn, 1992: 6), states that authors and artists tended to internalise the attributes of phonography so as to move from representation closer to experience (Kahn, 1992: 7), discusses onomatopoeia (Kahn, 1992: 7 & 8) and verbal imitation of worldly sounds (Kahn, 1992: 9), alludes to "a new vocal form of sound synthesis" (Kahn, 1992: 11), and analyses William Burroughs's "technical difficulties while moving from metaphor to artistic technology" (Kahn, 1992: 13).

Equally important is literature's input into Kahn's examination of the more abstract figures of sound. Literature proves to be a major resource and corroborates most of the theses put forward in "Figures of Vibration, Inscriptions, and Transmission". In this section of his article, Kahn discusses three *figures of sound* that, according to him, "account for how sounds are located or dislocated, contained or released, recorded or generated" (Kahn, 1992: 14). As Kahn notes, "the figure of vibration was most pronounced in ideas of synesthesia" (Kahn, 1992: 14), which proposed that "the operations, affects, and objects of perception intrinsically corresponded to one another" (Kahn, 1992: 14). In synaesthesia, actual sound occurred "almost entirely as elements of speech and music" (Kahn, 1992: 15), like phonemes and tones. And these could correspond

> to each other, to colors, to the regulated timbre of sound colors, to personality attributes, or to the meaning of phenomenal or cosmological traits. But wherever sound occurred, it was always manifested elsewhere, or other things were manifested through it; a sound had no autonomy but was always relation, being somewhere or something else (Kahn, 1992: 14).

The most important category associated with the figure of vibration is that of "vibrational space", that is, a space structured by the very experience or notion of vibration, in which bodies and objects are placed in "an ever-dependent relation within a larger system" (Kahn, 1992: 15). The figure of inscription, on the other hand, is "associated with the phonograph of the late nineteenth century and the phonautograph not too long before it" (Kahn, 1992: 17). It can be seen as the sheer abstract equivalent of the more concrete figure of the phonograph discussed above, and as covering more sonic ground than that of the figure of vibration. So he says: "the acoustic events in synesthesia only carried weight in concept because in actuality they consisted merely of conventionally pitched musical tones and phonemes", as opposed to "an inscripted sound [that] could be any sound" (Kahn, 1992: 17-18). The figure of inscription, moreover, deals with "the phonographic collapse of speech and writing into visible speech and vociferous graphemes" (Kahn, 1992: 18), which indicates that "sound was finally brought into the visualist and scriptural logic of Western culture" (Kahn, 1992: 18). It also deals with human agency, or its absence, for "inscripted sound […] meant something distant from the conceit of nothing-but-consciousness, from the necessity of human agency and metaphysical presence" (Kahn, 1992: 18). This comprehensive, visualist, scriptural, and human-agency free class of figure is discussed by Kahn in relation to two writers. One is Raymond Roussel, for whom "sound is written on the *surface* of objects" (Kahn, 1992: 19); the other is William

Burroughs, for whom "writing occurs submerged within a secretive *interior* […], or in a way not easily readable" (Kahn, 1992: 19). In either case, writing is the category that governs the figure of inscription. In writing sound takes on form and meaning, be it the concrete form of recorded sound, afforded by phonography, or the abstract attributes of phonography represented, enacted, and explored in the literary realm. The figure of transmission is suggested as both synthesis and surmounting of the preceding two figures. It "combined aspects of both vibration and inscription, fusing the spatial features of vibration with the objecthood and corporeality of inscription, but exceeding them both in terms of complexity" (Kahn, 1992: 20). Otherwise stated, "transmission was basically the return and invigoration of objects and bodies that had been fixed by inscription to the space implied by vibration" (Kahn, 1992: 20). This figure is mainly explored by Kahn with regard to the notion of "wirelessness" (Kahn, 1992: 21), which, in several accounts of radio (as well as telephone) and transmission in general, was anthropomorfised "to ideas of unmediated communication, thought transference, and signal as corporeal sensation" (Kahn, 1992: 21). Sound technology reverberated through literature primarily through anthropomorphic categories such as these three.

As Kahn asserts at the very end of his article, these three figures were proposed "as methods to cohere a wide range of scattered events and ideas", and he notes, "the cohesion need not be a narrative one" (Kahn, 1992: 26). Kahn's suggested way of reading the history of sound in the arts by means of figures might not be narrative in the sense that any of these figures need not be subsumed under an all-encompassing, cohesive narrative. Yet, his reading is indeed inherently narrative, insofar as each figure comprises a set of micro-narratives, themselves springing from major narratives, be it historical narratives, theoretical and philosophical narratives, or simply the plot of a novel or short story, the ideas voiced through a manifesto or populating a piece of literary criticism. By tracing the ephemeral life of this fleeting and scattered *entity* that is sound by means of figures, Kahn brought literature — the realm of representation, figurative expression, and narrative — to the fore of an inquiry into sound, listening, and aurality.

4 Soundscapes Reverberating through Literature: John M. Picker and George Eliot

John M. Picker's *Victorian Soundscapes* investigates how Victorian writers responded to changes in the status of sound during the reign of Queen Victoria and in listening, the "cultural shift toward close listening" (Picker, 2003: 08). According to Picker, "Victorians in their scientific and technological discoveries and literary innovations went a long way toward dispelling, or at least redefining, the mysteries of hearing and sound" (Picker, 2003: 10). Their literary innovations and narratives of listening and sound were, thus, entwined with an epistemological, aural turn whereby "what Romantics had conceived of as a *sublime* experience" were transformed "into a quantifiable and marketable *object* or *thing*, a sonic commodity, in the form of a printed work, a performance, or, ultimately, an audio recording, for that most conspicuous legacy of Victorianism, the modern middle-class consumer" (Picker, 2003: 10). In order to analyse the stages by which this transformation took place and the close relation established between literature and sound, as both aesthetic concept and urban sign, Picker delves into Victorian soundscapes and tells the stories "of figures at once attentive and investigative, those who both contributed to and,

consciously or not, hoped to control, even to dominate, their acoustic worlds" (Picker, 2003: 14). Picker argues for a non-unifying conception of soundscape in Victorian times — as the use of the plural form of *acoustic world* indicates — so as "to steer away from a monolithic conception of a singular soundscape toward an analysis of the experiences of particular individuals listening under specific cultural influences and with discernible motivations, if that is the word, for hearing as they did" (Picker, 2003: 14). He swaps a totalising conception of soundscape with fragmented, localised, and discursive ideas of sounding spaces. Soundscape, therefore, begins to refer to a set of ideas about sound and of sonic experiences lived by an individual or shared by a group of individuals which come to be associated with a space (and a time) by virtue of narrative. Because a soundscape does not correspond to the acoustic world in its fullness, but only to one account of this world, soundscapes are manifold, overlapping, harmonious, or contradicting – simultaneous, but not necessarily contemporary. And because what constitutes a soundscape is not simply the sound itself, but a set of sounds organised as experience according to a narrative, literature emerges as a privileged territory of inquiry.

Picker's analysis is chiefly comparative, insofar as he confronts literary texts with less fictional and more theoretically orientated texts, such as Charles Babbage's *The Ninth Bridgewater Treatise: A Fragment* (1837) and Hermann von Helmholtz *Die Lehre von den Tonempfindungen* (1863) – whose third edition was translated into English by the mathematician and philologist Alexander J. Ellis as *On the Sensations of Tone as a Physiological Basis for the Theory of Music* (1975). It is precisely in relation to Helmholtz's *Sensations of Tone* that he reads George Eliot's last completed novel *Daniel Deronda* (1876). The parallelism is justified by reason of "Helmholtz's new understanding of the physiology of hearing sympathetically resonated not only in Eliot's fictional project, especially the strained silences and stifled speech of *Daniel Deronda*, but also in the technological and psychological discoveries that occurred alongside it" (Picker, 2003: 12). Helmholtz's and Eliot's ideas, therefore, resonate with each other and with their time – *Daniel Deronda* being her only novel set in the contemporary Victorian society of her day. Analogous to Kahn, who uses figures to establish sound as a historical object and pin down the role it plays in the history of art, Picker, too, explores what can be considered a figure of sound, the figure of sympathetic vibration (which is somewhere in between Kahn's figures of vibration and transmission). He does so in an attempt to bring together Helmholtz's theories and Eliot's fictional project and devise an analytical category that would allow tackling the much more diffused and indeterminate form that narratives of listening assume in Eliot's work. In Eliot's novels, sound and listening do more than characterising specific moments or scenes of the novels. They saturate the author's language and imagery informing a "language of sound" (Picker, 2003: 89), contributing to the characterisation of the strained silences and stifled speeches. In addition, citing Karen B. Mann, Picker suggests that Eliot conceives her characters "as musical instruments, responsive to the invisible vibrations of the world in which they live" (Picker, 2003: 89). In doing so, she would be imbuing her novels with a sonorous atmosphere.

In *Daniel Deronda*, aurality arises mainly by virtue of sympathetic vibration, which plays out as a through line, to which Picker refers by dint of Eliot's words, as "separateness with communication" (Picker, 2003: 99). He explains: "with the idea of 'separateness with communication,' Eliot very nearly captures the essence of *Deronda* in a single phrase, one

that evokes the tenue balance between self and other, individual and community, and home and world, that so often is the goal of her fictional project" (Picker, 2003: 99). From this idea however, Picker retains less its metaphorical stance than its potential acoustic aspect:

> The idea of "separateness with communication" can be considered an acoustic process, a distillation of the essence of sympathetic vibration. And such a Helmholtzian echo in the theme of this, Eliot's grand finale in fiction, was at the same time sounding in the telephone, the mechanism that made aurally possible the psychological and nationalist condition *Deronda* espoused (Picker, 2003: 99).

According to Picker, Eliot's novel shares aural traits with the telephone, which was patented in the same year *Deronda* came out. Thus, by exploring the idea of "separateness with communication", Eliot's literature would mirror sound reproduction technologies:

> There are, of course, no telephones in *Deronda*, set as it is in the 1860s, a decade before its period of composition. But it is a novel that, like Eliot, dreams of the possibilities for "telephonic converse"; a book about which its author well might have said with Bell in 1875, "I feel that I am on the verge of a great discovery" (Picker, 2003: 104).

Such mirroring takes place, however, as a distortion rather than a reflection: Eliot's literature conceptualises an experience that comes into practice with the invention and later development of telephony without mentioning the telephone. Eliot touches upon the figure of transmission and by doing so gives birth to the figure of the telephone even if, as Picker suggests, it was all a dream. The possibilities dreamed for telephonic conversation seems to correspond to what, in Kahn's terms, could be named the ideational mission of the telephone. Dreaming of possibilities for sound and listening is one of the powers of literature.

5 Literature Unveils Acousmatic Sound: Brian Kane and Franz Kafka

In 2014 Brian Kane published *Sound Unseen*: "a book written to develop a theory of acousmatic listening as a historical and cultural practice, one with clearly defined characteristics" (Kane, 2014: 7). By acousmatic listening, Kane means

> A shared, intersubjective practice of attending to musical and non-musical sounds, a way of listening to the soundscape that is cultivated when the source of sounds is beyond the horizon of visibility, uncertain, underdetermined, bracketed, or wilfully and imaginatively suspended. The term "acousmatic listening" should be understood as a rubric intended to capture a set of historically situated strategies and techniques for listening to sounds unseen (Kane, 2014: 7).

The core argument of his book is presented in the fifth chapter, in which he develops "an alternative theory of acousmatic sound by way of a close reading of Kafka's tale 'The Burrow'" (Kane, 2014: 11). As Kane summarises it, the chapter "attempts to rethink the terms of acousmatic sound apart from the ontology of the sound object" (Kane, 2014: 11). To do so, Kane shifts from theories of listening to literary narratives of listening, since literature does not feel the need for resolving problems, enjoying more freedom in raising questions and exploring unsettling issues.

Kafka's story The Burrow (*Der Bau*) was written in the winter of 1923-1924, first published in *Beim Bau der Chinesichen Mauer*, and reprinted in *Beschreibung eines Kampfes*. The end of the story was lost. The tale depicts a burrowing creature who has just completed the construction of its den, which comprises an elaborate system of tunnels and round cells. Not quite in the centre of the burrow lies the chief cell, the Castle Keep, as the creature names it. The main feature of the burrow was its stillness, which was only really perturbed by the noise with which the creature occupies itself in the second half of the story: "the most beautiful thing about my burrow is the stillness" (Kafka, 2005: 351). Such beautiful sense of stillness is indicated by the omnipresent silence, whose disruption is readily counteracted: "For the time being, however, the silence is still with me. For hours I can stroll through my passages and hear nothing except the rustling of some little creature, which I immediately reduce to silence between my jaws, or the pattering of soil" (Kafka, 2005: 351). For the narrator of the story, silence is, moreover, the sign of security and assurance: "What if my foes should be assembling even now up above there and their muzzles be preparing to break through the moss? And with its silence and emptiness the burrow answers me, confirming my words" (Kafka, 2005: 368). When silence is interrupted by sound, however, insecurity and uncertainty take hold of the creature who initially believed itself capable of identifying the source of that mysteriously ubiquitous noise due to its fine hearing: "From the noise, which my ear can distinguish in all its finest shades, so that it has a perfectly clear outline to me, I deduce its cause, and now I am on fire to discover whether my conclusion is valid" (Kafka, 2005: 369). The cause of the noise, however, remains unknown, as none of his conclusions could be proven valid: "But whether trifling or important, I can find nothing, no matter how hard I search, or it may be that I find too much" (Kafka, 2005: 370). This is how an ordinary encounter with acousmatic sound escalates into an excruciating experience of listening ensued by paranoid confabulation, and the beautiful stillness of the burrow is poisoned by an anxiety of aural order.

One of Kane's main theses is that acousmatic sound is a source of anxiety *par excellence*, and that this anxiety, "the anxiety inherent in acousmatic sound" (Kane, 2014: 159), is associated with insecurity and indeterminacy. In this sense, Kafka's story suits or, more precisely, informs Kane's investigation, since it depicts an acousmatic situation incensed with insecurity and uncertainty. Kane asserts that "acousmatic sound is unsettling because it depends on a structural spacing of sonic source, cause, and effect that is fundamentally insecure" (Kane, 2014: 157 & 159). An insecurity that Kafka's literature expanded on and responded to. Kane describes two main attempts to assuage this insecurity that has been undertaken by those interested in investigating acousmatic sound:

> On the one hand, there is the drive to secure certainty by discovering the material source of acousmatic sound, by lifting the mythical Pythagorean veil and seeing the source in all of its nakedness. On the other hand, there is the drive to secure certainty by bracketing everything that is inessential to encounter the sound object in all of its absolute and essential detachment (Kane, 2014: 159).

Because both approaches aim to find a resolution to the challenges and uncertainties raised by acousmatic sound, Kane denounces them as instances of a reductive method that theorises away the problems of acousmatic sound (Kane, 2014: 159). Kafka, on the contrary, due to his preference for unresolved tensions and problematics, does not shun the problems of acousmatic sound but engage with them instead: he "chooses neither of

these routes, maintaining the anxiety inherent in acousmatic" (Kane, 2014: 159). Such an anxiety sets in motion the whole second half of Kafka's story (as well as Kane's theory of acousmatic sound). Kafka's adamant indecision unveils the perpetually veiled acousmatic sound. The veil is a source of anxiety as well as it is acousmatic sound's ontological condition. At the end, Kafka does contribute to the rethinking of acousmatic sound apart from the ontology of the sound object by simply shifting to an ontology of the acousmatic situation, whereby the walls of the burrow, as perennial veils, will never be excavated to the point of their extinction.

Kane brackets out the inherent differences regarding philosophical and literary exploratory and investigative proceedings so as to interrogate why we should give more credence to Hans Jonas or Erwin Stein or Pierre Schaeffer than to Kafka when it comes to thinking about acousmatic sound: "Why should the philosopher be a more insightful, more systematic researcher than the novelist?" (Kane, 2014: 161). Kane's questioning of the habitual epistemological status of literature contemplates narratives of listening as something more than mere illustration or recorded history, as theory and history themselves.

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18. From Control to Correspondence – Toward Effective Strategies for Sound Art Curation

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Abstract. Over the last 50 years, Sound Art has found a growing prominence among artists, interest among curators and importance in the contemporary art world. Despite this situation, the category continues to sit uncomfortably within gallery and museums. Ongoing attempts to remediate the visual logic of exhibition spaces toward Sound Art on the whole have been lacking. Therefore, the need for an appropriate description of the effective curation of Sound Art remains. This paper makes a first attempt toward this description. It approaches the topic by first establishing a base understanding of the intersecting motivations and intentions behind treating sound as art and art as sound. In attuning these intersections to the various sonic conditions with which such artistic practices contend, a groundwork is established upon which we can observe some of the convergences and contradictions inherent in exhibiting Sound Art. Examining recent sound-focused exhibitions further defines the territory within which emerging curatorial strategies begin to posit some productive notes toward a methodology.

1 Introduction

> *Today more than even, sound participates in the writing of a contemporaneity that produces new signs and relinquishes the predominance of vision.*
>
> (Lavinge, 2016: 9)

A new category of art has been emerging over the past century; one situated at the intersection of visual art and music, yet attempting to exceed the boundaries of both. Despite ongoing disagreements over the origin of its defining term, as well as how and to what it should be applied, what is undebatable in regards this evolving category – Sound Art – is its growing interest, prominence and importance within artists' output and, consequently, within museum and gallery exhibitions. Concurrent social, political, conceptual and technological developments over the past 50 years have enabled it to occupy an advancing position, contributing to the undoing of both the art object's fixity and music's compositional constraints to conceive of sound and its extremities (noise and silence) as their own discrete material, medium and form of expression. The path to this point, where sound can now be conceived as an independently legitimate artistic gesture, is marked by a far-spanning breadth of hybrid experimentations incorporating sound into art and art into sound. It is a path that in many ways follows the 20th Century progression towards a more fulsome *Gesamtkunstwerk*, simultaneously shifting the place of presentation for such all-arts alliances from the concert stage to the white cube. Yet, as the dematerializing practices of conceptualism continue, sound continues to resonate beyond such expected borders into new futures.

Consequently, when embracing Sound Art within their practice, curators are presented with significant challenges that exceeds those found in other 'extended media' such as video or performance, both of which have secured more stable homes within exhibition spaces over time. How can contemporary exhibition makers respond to the condition of sound as art such that the form is invited to exist with integrity, whether on its own or alongside other media, and in a manner that successfully meets its public? Despite numerous attempts over the last 20 years, this remains an unanswered question in need of address.

This paper is a preliminary approach toward just such an address. It attempts to define productive modes of Sound Art curation first by establishing a base understanding of the intersecting motivations and intentions behind treating sound as art and art as sound. In attuning these intersections to the various sonic conditions with which artistic practice must grapple, a groundwork is established upon which we can observe some of the convergences and contradictions inherent in exhibiting Sound Art. Pushing these observations through an examination of recent sound-focused exhibitions further defines the territory within which emerging curatorial strategies might claim potentially productive practices. From this vantage point, an effective curation of Sound Art might be posited.

2 Intersections: Art of Sound, Sound as Art

> *We were concerned with sound itself. And sound does not know its history.*
> - Morton Feldman (Migone, 2003: 81)

The increased interest of non-musicians in music and sound and of musicians in images and space have come to create a rich contemporary audiovisual culture. We can trace the precursors that have given this culture its shape – the core of contemporary art today – back to 1962, or perhaps a little earlier. It is here that we witness the movement of both art and music toward sound as a key response to emerging dissatisfactions with the social separation between art, music and everyday life.

Within the realm of music, it is the work of John Cage, especially his seminal *4'33"* (1952), that serves as a revelatory marker in the unbinding of sonic practice from the confines of music creation. In freeing composition from its structuring materials[1] to focus an audience's active listening toward defined periods of silence (or, rather, upon all of the sounds that occupy a space within those defined periods of silence), Cage released music from its ontological ties and brought it closer to serving as an examination of lived experience. Within such a conception, music ceases to be. Rather, it is no longer focused on the idea of being, but is occupied with the act of becoming. Equally, music no longer is defined by a time-based teleology, but adopts duration as its ordering principle (Cox, 2011: 80). This combination of duration and becoming align Cage's practice closer to the experience of an art for our current age, a contemporaneity that theorists such as Peter Osborne and Boris Groys define as an un-ending perpetuation of a non-historical present (Bishop, 2013: 18). Sound itself has no historical material state – it does not develop, but is presented and contextualized each time, again and again, and addressed in a manner that relates to the distinctive characteristics of its situation (Draxler, 2011: 142). Within this frame, music

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1Musical materials include pitch, melody, register, harmony, rhythm, meter, beat, dynamics, articulation, etc.

serves as a practice involving the organization of sounds (Varese, 1966: 11) into a series of nows that are connected to, even created by, our own experience.

Deeply influenced by Cage's conceptual developments, Duchamp's call for a non-optical art and Joseph Beuys' practice of social sculpture, the Fluxus movement (1962-1978) expanded upon this notion of what music is and its presentation could be via public events that broke down social barriers between creators, performers and their publics. As curator Walter Rovere describes them:

> These were concerts…which systematically demolished every accepted notion of form and content in music, targeting outdated listening conventions and cultural values of the classical tradition… More precisely, the movement challenged preconceived notions about the nature and boundaries of art, and its artificial divisions into categories." (Rovere, 2016: 112)

Such 'happenings' opened up the range of possibilities upon which many further intersections of sound and art since have been built, whether that be through the permission to explore 'real', messy and open-ended relationships between audience, performers and music (Meyers, 2016: 33); the pull toward non-goal-oriented 'concert' events (Meyers, 2016: 38); or the freeing of performance formats from the confines of the concert hall, especially evident in the case of the New York City loft concerts (Rovere, 2016: 113). The latter no doubt inspired the boundary-blurring downtown music scene of the 1970s in which many leading American sound artists such as Laurie Anderson, Tony Conrad, LaMonte Young and Terry Riley advanced their craft, and from which they rose to art-world prominence. (van Assche, 2003: 5).

The enticement to embrace sound within the visual arts is based on its potential to bust through boundaries and break out of the confines of the gallery (Connor, 2011: 129). Sound found and held this appeal via its power to disrupt common predispositions toward fixity found in art museums and galleries, especially through its capacity to invite new public engagements that previously did not exist. Such thinking perpetuates a century-long (and ongoing) desire among artists to expand the concept of what can be considered artistic material and what constitutes the boundaries of an art work. While contemporary curators cite the last fifteen years as the window in which artists have pressed against these boundaries (Milliard, 2016: 7), in fact we can look as far back as Futurist and Dadaist precursors, and most certainly to Fluxus, to find the source of new intermedialities that include sound in their all-encompassing mix of accepted materials.

Advancements in technology from the 1940s forward introduced the recording, manipulation and diffusion of concrete sounds as an available artistic approach, captured under what French composer Pierre Schaeffer labeled 'acousmatics', or sound produced without a visible or definable source. As recording and audio manipulation technologies became more commercially available throughout the 1960s and 1970s, artists gained better access to an unbounded means of capturing and shaping sound as artistic material. By the 1980s, sound synthesis and electronic music instruments, such as synthesizer keyboards, music samplers and drum machines, also became more readily available, further expanding the possibilities of generating and cultivating sonic material in the development of whole new art forms. Today, online sound databases, sound design software and internet streaming services make the sourcing, manipulation, design, sequencing and distribution of sound infinitely more immediate, malleable and ubiquitous.

Under such accelerated conditions, it becomes clear how sound has found a more prominent place in developing trends and experiments within the visual arts.

This desire to break out of the gallery's boundaries matched by a lack of legitimate space for sound art within its walls encouraged many artists to embrace sound as a site-specific material, whether it was distributed through existing media channels such as radio, recorded to vinyl or tape, connected to the urban fabric through fixed installations or participatory soundwalks, or performed live in more concert-friendly venues. It's not until the 1980s that sound was introduced in an interdisciplinary way into the white cube, primarily via the soundtracks of an emerging film and video art scene. By the late 1990s, exhibitions that focused solely on sound as a category of art began to emerge in smaller artist run spaces, with major exhibitions such as *Sonic Boom* (2000) at the Hayward Gallery, *Volume: Bed of Sound* (2001) at MoMA PS1, and *Sonic Process* (2002) at MACBA and the Centre Pompidou appearing in the early 2000s. (van Assche, 2003: 5). Now, sound is accepted as a valid artistic material within a vastly expanded field, and Sound Art is a category that museums, galleries and their curators must embrace like any other.

3 Convergence and Contradictions: Exhibiting Sound

Despite past attempts of art historians to keep sound and vision as separate territories (i.e. in the concert hall and in the gallery), the preceding, brief overview helps us understand in fact that there is a substantial history of intermediality and mulitdisciplinarity that bring these two materials together. Along the same lines upon which contemporary art dematerialized in the 1960s under conditions of linguistic conceptualism, in the 1990s sound began to separate itself from visual cues such that it can now exist as an artistic material and form in its own right. While this shift offers exhilarating new possibilities for artists, it equally presents consternating challenges for curators. This is the case simply because, no matter how expanded or radical they may be in exercising their conceptual and executive faculties, curators remain bound to the fixed, visual conventions of the exhibition format; and such conventions inherently contradicts sound's desire to be fluid and transient (Kraut, 2012: 363).

Artist Christian Marclay confirmed this position in 2005 when asked to comment on his own experiences with the exhibition of his sound-based work. Here, he reasserts some of the aforementioned conditions. If a gallery's primary objective remains to help arrange, partition and fix art objects in space in ways that optimize their visibility, then art-world structures aren't ready for sound. Sound does not submit to the gallery's rectilinear logic nor to its sealing, aesthetic glaze. Rather, sound has the habit of spreading, leaking and bending around corners (Connor, 2011: 129) Fundamentally, it is in sound's nature to be free and uncontrollable, to go places where it's not supposed to go. Therefore, Sound Art requires different architectures and technologies for its presentation, not to mention a different type of exhibition team that can master the demands of sound diffusion for optimal listening conditions (Licht, 2017: 11).

In the time since Marclay's comments, exhibition technology has caught up to sound's demands to some degree. But the pressure such demands place on architecture, staging and choreography means that even the most progressive sound exhibition design still ends in some failed attempts (Kraut, 2012, 372). Therefore, the question remains as to

what role the curator must play in reimagining strategies and methodologies to properly accommodate sound. As Max Neuhas asserts, "It's as if perfectly capable curators… suddenly lose their equilibrium at the mention of the word." (Neuhas, 2011: 73)

While there has been a quickly-growing body of knowledge forming around the relatively young profession of contemporary art curation, attempts to shape best practices remain challenging. Art today operates in a constantly blurring set of boundaries across an expanded field that absorbs other cultural expressions[2] at alarming rates. Such fuzzy expansion puts the contemporary curator to the test, especially those who seeks to develop any sense of depth or intensity in particular media and categories while also sustaining a viable professional practice. Consequently, despite its longevity compared to other emerging forms, the curation of Sound Art remains underdeveloped in this growing, exploratory field. Nonetheless, sound is not dissipating in its prevalence, prominence or presence within artistic output, pressuring curators to pay it the attention it deserves. The major hurdle remains: as long as the art world continues to privilege vision and treat sound as peripheral in so many ways (technically, contextually and hierarchically, among others) it will never reach the level of potential and importance that artists increasingly have assigned it (Kraut: 2012: 374).

4 Case Studies: Methods of Exhibiting Sound as Art

Thankfully, the art world is far from reaching an impasse on how to treat sound in the gallery. As we have seen, some fearless curators have taken up the challenge over the last fifteen years of experimenting with the possibilities of producing sound-focused exhibitions. Their inquisitive and often intellectually progressive approaches mix conditions in ways that point us toward two predominant yet still uneven strategies.

4.1 Containment / Control

Registered attempts at staging Sound Art exhibitions in the early 2000s demonstrate a curatorial preoccupation with contextualizing the presentation of sound-based works as much as with how to address the material and spatial conditions of sound itself [3]. Unlike many other artistic materials, sound is leaky and expansive, effortlessly penetrating and permeating any environment. As such, sound has the capacity to envelop and form space in manners that not only give a sense of its outlines, contours and surfaces, but also can define its qualities and relations. It is sound's ability to be simultaneously detailed and diffuse, immersive yet focused, that insists whatever audience is present to perceive it must remain actively receptive and engaged. One cannot listen away from sound in the same way one can look away from a painting or sculpture. For these very reasons, when sound is invited into the sealed-off and static space of the gallery, it offers exhilarating possibilities that, if not properly handled, can be equally catastrophic. (Connor, 2011: 129-134).

2Such expression include dance, theatre, poetry, activism, carnival and archiving, just to name a few.

3Note that, for the purposes of this discussion, I am purposely focusing on those gallery and museum exhibitions that present exclusively Sound Art. It could be argued that the 1996 Sonambiente project in Berlin should be studied among the earliest examples of such exhibitions, but given that its presentation strategy involved a geographically scattered and site-specific approach, it has not been included here.

Such was the situation when David Toop was assembling *Sonic Boom* (2000), one of the first-ever surveys of sound sculpture in the UK. The 23 artists represented were no doubt pleased to be included, but must have questioned the level of sonic interference generated by the exhibition sequencing. In fact, some critical reviews were quite open about the resulting cacophony of Toop's display (Martin, 2000: 1), as were the recorded accounts of participating artists protesting their 'noisy neighbours' in the Hayward Gallery space (Connor, 2011: 131). Nonetheless, Toop defended his curatorial approach by evoking the precedents of John Cage:

> Firstly, it wasn't a problem, and secondly, I didn't want to keep them separate …the character of music in the present time is that it all overlaps. We are saturated by sound now. We walk around and we move through constantly changing soundscapes, different types of music, different genres of music overlap all the time…you are almost walking through an environment where one sound overlaps and then you walk away from that sound and it fades and you walk into a new sound. So the gallery is the total, immersed experience and hopefully that transforms the gallery from what we think of as being a rather sterile space for showing art to something which is more alive and human. (Martin, 2000: 1)

This statement certainly rings true with those reasons for why sound has been brought into art and the art world. Yet, it also smacks of justification instead of curatorial intent. Even in the most radical of displays, the curator bears the responsibility of establishing links, correspondences and dialogues between works in a manner that respects the integrity of each artist's contribution while simultaneously enhancing the audience experience of each individual work and the exhibition as a whole. It is doubtful that Max Eastley's fine-wire sounds sculptures, which were designed to produce delicate and ethereal sounds, would have succeeded within Toop's strategy. But, as noted above, Eastley was not alone. Consequently, some of the artists (and Toop himself) were forced to resort to the standard response: works were placed outside of the gallery (Christin Kubisch's *Oasis* (2000) in particular, which incidentally received very positive reviews (Miles, 2000: 1)), while others were partitioned by extra walls, and yet others were placed within their own sound-insulated rooms (Connor, 2011: 131). Exhibition designer Ian Ritchie's *Sonic Boom* floor plans show exactly how heavily divided the exhibition had become as a result (Ritchie, 2000: 1). Such practices exist beyond the politics of the gallery into the history of music performance, as composer and sound ecologist R. Murray Schafer reminds us. Music has long been housed within special architectural containers intended to enhance its 'proper presentation'. Such efforts simultaneously lead such art form's evolution towards more refined expressions but also away from everyday life (Connor, 2011: 130). This impulse to spatially contain and control sound remains difficult to escape.

Curator Christine van Assche positioned her 2002 exhibition *Sonic Process* as a further attempt in the direction of successfully exhibiting sound work – in this particular case, exploring the electronic music explosion of the 1990s and its intersections with the visual arts. As she rightfully recognized, the exhibition of sound works runs against the grain of standard museology and, therefore, requires additional thought towards acoustic parameters. Her response was twofold: First, to adopt a different architectural model (the sound studio) to produce optimal listening conditions; and second, to use a set of sound databanks, accessible through headphones, to broaden the range among the available

sound works. Ultimately, each invited artist was provided with a fixed physical space – their own 'sound studio' – in which to present their work. Within each space, van Assche encouraged the artists to embrace the performative and mutable character of sound that renders the work 'at the risk of…losing its limits' (van Assche, 2033: 12). However, such sonic liberation could only take place within the confines of the assigned studio space. In her exhibition essay, she also readily admitted that the overall presentation concept reduced the placement or work and circulation among them to purely functional parameters: "Under such circumstances, it was not conceivable to imagine a conceptual trajectory the way curators are accustomed to doing." (van Assche, 2003: 11). And so the end result of this curatorial experiment remains in many ways as unresolved as *Sonic Boom*.

There is one example from this same period that is credited with demonstrating how modern technology can enable the successful exhibition of sound. Jesper N. Jorgensen's *Frequencies [HZ]* (2002) for Frankfurt's Schirn Kunsthalle also used acoustically prepared exhibition spaces, inviting audiences to perceive sound in new ways, but did so using methods that were noted as being less intrusive and predictable. (Kraut, 2012: 372). Light and sound events created by artist Carsten Nicolai for the gallery atrium were considered to be so seamlessly integrated that they generated a remarkable synesthetic relation between sound, light and architectural space. Austrian artist Franz Pomasll fashioned one gallery as a completely darkened space navigable solely by low-frequency emissions from an array of loudspeakers, while Ryoji Ikeda's 30-metre long corridor heightened the anxiety of its narrow confines with high sine tone diffusion and intermittent strobe light flashes that lit the way (Fricke, 2002: 1). Many of the other works exhibited extended this interactive dialogue between sound and architectural surroundings in ways that, even if only conceptually, overturned the control relationship between sonic practice and institutional space. Carl Michael von Hausswolff transformed the building's electrical grid into something audible, while Grönlund and Nilsen's parabolic mirrors oscillated across emitted frequencies dependent upon localized readings of radiation. Where the exhibition failed was in grasping the imagination of the audience toward sound serving as an art form in itself. Critics suggested that *Frequencies [HZ]* amounted to little more than a series of scientific experiments with the feel of a physics laboratory. (Fricke, 2002: 2). Often the complexities of the artworks lacked enough visual interpretation to hold interest, veering toward little more than illustration. (Heiser, 2002: 2) In hindsight, it's possible to interpret such criticism as founded in an inherent bias toward the visual – the exhibition's audience and critics were not yet ready to receive what appeared to be a strong and coherent curatorial attempt at offering an exhibition that truly treated sound as art.

4.2 Correspondence / Co-Existence

Sound Art exhibitions of the last five to seven years have moved beyond a reliance on what Jonathan Sterne calls the audiovisual litany (Sterne 2003: 15) active in the examples above to embrace a more conceptual and critical approach to curation that opens up onto new territory[4]. Sound Art has the power to turn the gallery inside out, exposing it to its

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4Sterne notes that this audiovisual litany that divides the properties of sound and sight has a tendency to idealize hearing while both denigrating and elevating vision. By accepting the audiovisual divide as fact without reflection and criticality leads sound art toward a focus on sound in and for itself, or what Seth Kim-Cohen would call an ambient conceptual-ism. In this mode, sound art cannot advance along the lines of linguistic conceptualism that has helped contemporary art

other – surfaces are rendered permeable; objects become events radiating with a vastly different sense of existence; duration and becoming reverberate with a power that dissolve and surpasses the static, fixed and passive conditions that predominate the strictly visual. Therefore, the capacity to both critically and reflexively advance beyond other forms is amplified. It is in this very opposition to the gallery that it is simultaneously engaged as an excellent conceptual frame for Sound Art. (Connor, 2011: 137). And curators are embracing these contradictions to create new strategies and approaches.

Christian Marclay's *Ensemble* (2008) exhibition for the Philadelphia Institute of Contemporary Art is perhaps an early example of this new approach to Sound Art curation. As he asserts in his exhibition essay, the desire for curators to isolate, contain or control demonstrates a lack of understanding of sound itself. In fact, sounds should be enhanced in exhibition through links, correspondences and associate play in the same manner that any other series of artworks would be.

In approaching his exhibition with the ears of a composer, rather than the eyes of a curator, Marclay assembled 27 mechanical, kinetic, interactive yet always acoustic works with a considered sense of how they might mix and play together, much like a musical ensemble might. In so doing, he also embraced the existing acoustic nature of the ICA's open gallery space as a display condition. Within such a spatial situation, his ensemble was able to interact and build a myriad range of new sonic events.

Marclay extended the notion of 'ensemble' even further by inviting musicians and other artists to activate the exhibition through the creation of their own soundscapes, whether these took advantage of the assembled works or not. In addition, the audience was invited to interact with the exhibition from a variety of positions – as listeners, composers, performers or deejays – depending on what level they cared to participate. In this manner, the curatorial conception and strategies behind *Ensemble* created a sort of sonic commoning, mixing and intermingling sound experiences within a space of fluid co-existence; where notions of authority and autonomy were cast aside to encourage various roles and voices to merge and emerge, resound and dissipate over an extended time frame. Within *Ensemble*, the ontological notions of sound as becoming were free to resonate on many registers.

In contrast, curator, theorist and sound artist Christof Migone's presents a sense of creative association that can be much more vexing. The twenty-four diverse works that he assembled for his exhibition titled *Volume: Hear Here* (2013) formed what at first seemed like a confounding collection: drawings and artist books; kinetic and static sculpture; multimedia and interactive installation; diffused and headphone-based audio; screen-based and projected video; and live performance art were barely contained within the Blackwood and Justina M. Barnicke galleries of the University of Toronto.

Migone's artistic assemblage appeared as perplexing as each work was in itself. John Oswald's asynchonrous *Whisperfields* (2004) film soundtrack was diffused without its video. Alexis O'Hara's *SQUEEEQUE* (2011) speaker fort-igloo was equal parts cozy space for communal sound-making and ear-threatening feedback trap. Dave Dyment's *Untitled (Headset)* (2007) offered earphones that would only perform when unworn; his

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develop over the last 45+ years. (Kim-Cohen, 2016: 10).

nearly imperceptible ultrasonic tone-cluster sculpture *Nothing (for Robert Barry)* (2007) was as unnervingly inaudible as it was almost innocuous. Ian Skedd's video piece displayed a choir signing what they should have been singing. Neil Klassen's tar-encased trumpet was rendered forever unplayable. Ryan Park's silenced copy of John Cage's *Silence* rubbed out the whole book in a buffed graphite; Chiyoko Szlavnics' moiré line drawings emerged from a series that might possibly become musical compositions; and John Wynne's box of old hearing aids played bewildering feedback in accompaniment to an intimately projected photo of the Atlantic Ocean. And this was just half of what Migone had put on display.

What was the audience to take away from all this slippery sonic stuff? Was this little more than an exercise in Cageian aesthetics? The clues lay with the exhibition title, which Migone very carefully crafted. His essay on Volume might give us an initial sense of what is theoretically at play here:

> Volume: a measure of a space, and volume: amplitude of sound. Consider volume as the variability of that space in sound. Consider volume as something within but wholly separate. Consider volume as the invisible and unmarked presence of sound. Consider volume as the intertwine of the spatial and the sonic. Now, consider sound as lost in space, more intent to illimit than delimit. The volume of sound art is immeasurable, deafening. It can overwhelm with silence just as well as it can blast with noise. By playing with the volume dial here we shall consider the *place* of sound art…Even prior to an intentional sound entering the equation, every space has its own soundtrack, its room tone. Every space is sonorous, every space has a breath….we shall weigh the propensity for sound to displace, multiply, heterogenize the topos, place, site. We shall also pay attention to volume of the unheard, the volume that activates the synaptic, the insidious volume of grey matter, the realm of the unsound. (Migone, 2003: 81).

If this multivalent view of volume problematizes the gallerization of sound art, then the questions of 'here' (the essential presence or absence of the listener in the space where sound art is sounding or not) and of 'hear' (the nature of reception and presentness of the listener in the space where sound art is) only further complicate the relationship. That is to say, if the very nature of sound art exhibitions is already problematic, then why shouldn't the work itself challenge these same notions in its very intent and content? At least that seems to be what Migone might be asking his audience to consider. Although, like sound itself, the fixity of his curatorial concept slides along the same slick lines between silence, sounding and sonic interruption – indirect, unframed, oblique paths to meaning; destabilizing resonances that speak to some pluralized truth that takes shape and reverberates as quickly as it escapes and dissipates.

Germano Celant's approach to bringing sound into the gallery shares affinities with both Marclay and Migone, but extends it to an encyclopedic scale. His *Art or Sound* (2014) for the Prada Foundation mirrors the aforementioned ideas of interaction and interplay, but pursues them in search of an overall release from the gallery's sensory repression toward a more democratic experience. In so doing, Celant attempts to augment exhibition practice through the inclusion of objects and elements that invite greater whole-body, multisensory audience involvement. Toward this end, he assembled a dizzying array artworks and objects that explored the gamut of representations, receptions, perceptions, intersections,

interminglings and inversions that can and have been expressed between art and sound over the last five hundred centuries of human creation.

Taking the musical instrument as a touchstone – exploring how it exists as both a sculptural entity and a sounding body – *Art or Sound* proceeded to unfold chronologically throughout the two main floors of the Ca' Corner della Regina in Venice, but not without extensive cross-referencing connections in creative research and concepts that span across centuries. Nearly any and every form of audiovisual creation was on offer: musical instruments both old and new, scores, automata, synthaesthetic experiments, painting, sculpture, kinetic artworks, interactive pieces, digital tools and computer-based works all found their home here. As Celant explained in his exhibition essay, this strategy of stimulating a broad sensory presentation invited a new schematic for both the display and contemplation of art: one where the fullest range of aurality could be experienced, much of it as it was intended by the creator to be encountered. Such intent included access to numerous artworks that are expected to be 'played' by the public, such as Laurie Anderson's body-sound conducive *Handphone Table* (1978) or Bernard Leitner's *Ton-liege* (1975) sound chair. Excuses of economic value or material fragility were eschewed to make available such works as part of cultivating a deeper sonic understanding.

As Celant conceived it, this overarching experience of sound encouraged a more dynamic and complex relationship to art, designed to further intensify the audience's relationship to their own bodies and the things that surround them. For this brief moment, the curator empowered art to do what it is ultimately intended to do: to create new awareness of the self and of reality. In privileging sound as the vehicle through which to experience oneself anew, Celant helped his audiences broaden their relationship with the world and the things and people who inhabit it, including themselves. (Celant, 2014: 18-20.)

5 The Cure? Approaches to Effective Sound Art Curation

The foregoing historical, conditional and experiential explorations offer a set of notes to the contemporary art curator, from which she may extract effective strategies for the conception and display of Sound Art exhibitions.

Chief among them would be the one that foregrounds the complex relationship between sound and space. It appears in the case of gallery-based Sound Art exhibitions that too often space is treated as a poorly considered given; a condition within which the already-conceived exhibition and its selected works must be contained, controlled or possibly even expelled. Rather, it seems clear that space must be treated as a primary precondition of the exhibition's concept. This recalls Marclay's assertion that Sound Art requires different architectures and technologies for its presentation. It also recalls Migone's caveat that every space is already sonorous even before sound enters it. The case studies above have highlighted some attempts creating more productive conditions, whether they be to accept sound for the real, messy and immersive material it is (Toop) or to privilege pristine listening conditions (van Assche). Nonetheless, such strategies have revealed their

respective receptive and museological challenges. Rather, it is those exhibitions that start from the place of understanding the relationship between sound and space that appear to be more successful – Marclay's *Ensemble* as a case in point, but also Jorgensen's *Frequencies [HZ]* – with the caveat that considering such relations as the exclusive element of the curatorial concept can render the exhibition disconnected from its intended public.

Other recent attempts to create customized conditions that privilege sound over vision, such as Jin Wang's *Big Can* (Wang, 2016: 63), are laudable yet troubled in the sense that they only further hinder the curator's control of conceptual trajectories or, even worse, risk re-ghettoizing Sound Art into a state of precarity. Rather, it would be better to listen to the advice of sound designer Colin Griffiths, who has worked with high profile artists such as Rodney Graham and Stan Douglas to install their sound-based projects. He advises curators to use an ear keenly attuned to space; to consider the conditions that will create a coherent intelligibility for sound to live in the gallery; to remain mindful of how the audience will first encounter an artwork (how their attention will be drawn to it and then transitioned away); and, above all, to be open to experimentation (Griffiths, 2003: 107-112). By introducing the audience's role as a triangulating point between sound and space, Griffith expands curatorial strategy toward the inclusion of experiential attributes of an installation that positions the listener within an intelligible listening space that itself is *within* the artwork (Griffith, 2003: 113.)

This leads us to the next note, which concerns the relationship of sound to sound. Creating an exhibition is akin to offering a different possible world for an audience to inhabit. Given the diffuse, permeable, immersive and impermanent qualities of sound, a world that seeks to actively engage with it is one that must embrace the inevitable mixing of sounds that will result. Composition in contemporary practice has moved forward in this direction of mixing, which also extends back through a long lineage of creative musical practices (Connor, 2011: 132) To effectively and successfully mix and relate sounds requires the curator to use the ear of a composer, as Marclay has suggested, alongside the eye of an artist. But she must do so responsibly, with a mind to Griffith's call for approach, coherency and intelligibility. Otherwise, we possibly end up with Toop's cacophonous. composition for *Sonic Boom*. Celant describes in succinct yet suitable complexity this relationship between the eye and the ear in the role the curator must play as composer:

> The creation of an equivalence between ear and eye, visible and invisible, limited and unlimited establishes an echo of reciprocity that, in many cases, produces connections between on room and another, between a nearby object and a distant one, even when the visitor is not standing directly in front of the exhibit. A significant effect of interaction that is defined today as 'interference,' but is in fact a multi-modal and multisensory manner of appreciating art, as well as its contingent surroundings. (Celant, 2014: 21).

The final note applies to the role of sound beyond itself. While much of the concern about curating Sound Art has lain – in fact continues to lie – with sound's material, spatial and temporal properties, and how these properties relate to the conception, display and trajectories of an exhibition, there are also undeniable social, cultural, political and philosophical issues that sound embodies and beg to be addressed. From Fluxus forward, artists have embraced sound for its ability to ignite open-ended and engaged relationships

between audiences and art; for its capacity to stimulate new somatic sensations that intensify the awareness of self and to the surrounding world; and for its power to ignite new criticality within conceptualism. Sound has the unique property of being able to move between interpretative territories and domains of discourse such that it can open up onto new meanings…fundamentally to do the difficult, vigilant, active and informed work of art that the visual alone cannot. (Kim-Cohen, 2016: 68). From this perspective, the curator must be prepared to move beyond the entrapments of Sterne's audiovisual litany to engage sound, and unsound, in its fullest sense.

> Sound Art…represents the invention and development of modern and contemporary life, as well as its social structure and cultural values. More precisely, it embodies, the most experimental and radical aspects of modern and contemporary art, inspired by groundbreaking scientific, technological, geo-cultural and sociological research…its intangible, elusive nature has become the perfect counter-force to negotiate spaces for freedom of movement, expression and experience in a capitalist context dominated by material fetishism and social control…It is the perfect incarnation of openness. (Hou, 2014: 20.)

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19. Methodological intersections in search of the sonic memory of the graphic industry in a Colombian neighborhood.[1]

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Abstract. The San Nicolás neighborhood (Cali, Colombia), is one of the oldest in the city. In 1894, the first typographic machine arrives in the neighborhood and since then it has consolidated as the place of graphic arts in Cali. The new industry has paved the way to unique socio-spatial conditions. Besides housing, there are currently hundreds of graphic printing machines distributed in 527 businesses, mostly small, that have settled into an area of just 20 blocks. The soundscape of this small territory is recognizable by the rhythmic mechanical pounding of the traditional printing machines and by the dynamics of a commercial activity that begins at 8:00 am and ends at 6:00 pm. After two years of research, an interdisciplinary group of historians, anthropologists, sociologists, architects, and artists were able to complete a characterization of the neighborhood and its soundscape. This paper discusses the methodological decisions, how the results were achieved and the significance that the captured sounds have in the particular context of San Nicolás' neighborhood.

Keywords: sound heritage, graphic arts, soundscape, acoustic territory, Cali-Colombia

1   Introduction

The methodological reflections explained below are part of a two-year research project in the San Nicolás' neighborhood in Cali, Colombia. Some of the ideas proposed here have been developed in other academic spaces such as the 3rd International Congress of Ambiances (Volos, Greece, 2016) and the paper *Paisaje sonoro y territorio. El caso del barrio San Nicolás en Cali, Colombia* (Llorca, 2016).

Research on the sonic urban environment) from a cultural and aesthetic perspective, is a field that has not been relevant in urban design or public policy. As Augoyard points, in the first instance, there are no adequate methods to assess situations plus analyzes are usually limited to measurements on noise, and secondly, inquiries are based solely on physical knowledge, resulting in applications that deal solely with precise urban situations, forgetting the comfort of everyday life (Augoyard, 2002).

In that sense, the designers and agents responsible for managing the development of the environment must understand that the daily sound is very important in its communication and emotional dimensions. As José Luis Carles notes, "the concept of acoustic ecology rests on the relationship between people and their acoustic environment, proposing for example if such relationship is balanced or not, if it facilitates the integration of the individual within the community or if it results distant and unsustainable" (2007). We may add that in addition to the well-being, the emotional bonds that can be established with the

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landscape, including the sound, make us think of the need to conserve or preserve, like a heritage, the positive environmental signs that shape our culture.

The search for new tools to intervene the urban landscape that incorporate the sensitive, involves understanding the space and the landscape as a living and flowing entity containing individuals in their environment in an integrated manner. With these assumptions, the research outlined here has sought to join the works that think the complex dimensions present in the relationship of individuals with their space. In the words of Lynch, "these sensations shape the quality of places and [...] this quality affects our immediate well-being, our actions, our feelings and our understanding" (Lynch, 1992). The research team was comprised of architects, sociologists, historians, anthropologists, and artists who developed the conceptualization and subsequent implementation of the strategies proposed to examine the soundscape of the neighborhood while investigating on its history. The research was funded by the Colombian state between 2014 and 2015. The collected material has served for the construction of online cartographies: **www.cartofonias.org**

2   Listening to the space

2.1 From space to soundscape

The notion of *soundscape* has become a field of study that encompasses different relations between sound and space. However, what is understood by space has had an important conceptual evolution during the twentieth century.

In the nineteenth century, the interest in space was given in areas such as architecture and urbanism; however, in these conceptions, there was a Cartesian basis that understood it in an absolute and geometric way. Another of the disciplines that by its nature dealt with space was geography which in the twentieth century reformulates its bases and extends the physical analysis towards the human. Its turn finds in concepts like "region" and "territory", foundations to articulate physical and human phenomena in order to study more broadly our occupation of terrestrial space (Hiernaux and Lindon, 1993: 90).
According to Milton Santos, the space now includes the physical and the social "as an indissoluble set of systems of objects and systems of actions [in which] we can recognize their internal analytical categories. Among them are the landscape, the territorial configuration, the territorial division of labor, the space produced or productive, the roughness and the forms-content" (Santos, 2000: 19).

The idea of the geometrical space and concrete that exerts as holder is replaced by that of a relational unit in which Santos emphasizes, on the one hand, the indissolubly of natural and social objects "and on the other, the life that fills and animates them, society in motion" (1996: 28). In this dynamic part, we consider that the sound is found.
For De Certeau, the daily life in its spatial dimension is defined by two "determinations": one, the objects ("an inert body always seems to form, in the West, a place and to do it in the form of a tomb") and other, the operations ("a movement always seems to condition the production of a space and associates it with a story)" (2000: 130). The coincidence with Santos' system of objects and actions is obvious.

Regarding the study of the urban, David Lynch focused on analyzing *sensitive impression* arguing that "these sensations shape the quality of places and […] this quality affects our immediate well-being, our actions, our feelings and our understanding" (Lynch, 1998: 20). It would be his student Michael Southworth who in 1969 realized a study of the sensible environment of Boston based on the postulates of his teacher and coined the term *soundscape*. His research sought to determine the role of sound in our perception of space by working with blind people.

In the 1970s, composer Raymond Murray Schafer founded the World Soundscape Project (WSP) in Canada and proposed the study of the sonic environment, developing the term *soundscape*. Murray Schafer led to the emergence of other concepts such as acoustic ecology (the study of sound in relation to life and society) and acoustic design, a task in which, according to the Canadian composer, we must all participate, from citizens to composers, Architects, sociologists or psychologists (Schafer, 1994: 205). Close to Lynch's "legibility" concept, Murray Schafer proposed two categories of soundscapes: high-fidelity (hi-fi) which are balanced and allow to clearly recognize the different sounds that compose it, and the low-fidelity (lo-fi), in which the sonic environment is little discernible due to the saturation of sounds (Schafer, 1994: 272). As mentioned, Lynch emphasizes the importance of "legibility" in urban spaces understood as

> the ease with which can be recognized and organize their parts into a coherent pattern. Just as this printed page, if legible, can be visually apprehended as a connected pattern of recognizable symbols, a legible city would be one whose districts, prominent sites or paths are easily identifiable and are also easily grouped into a global guideline (Lynch, 1998: 11).

2.2 The place

Fig. 1. Density of printing businesses in the neighborhood. (Source: own development)

The neighborhood of San Nicolás, whose church was built in the seventeenth century and is part of the old town, is located next to the main square of the city and It borders with the line of the old railway, which marked the space of Cali's first industrial zone in the early twentieth century. Today, in spite of conserving housing, it is occupied by industrial activities and commerce. However, the graphic arts industry stands out because of its history and presence, a craft with relevant precedents as in 1894 a local entrepreneur brought to his house in the neighborhood a typographic printer. Shortly after, some of the most important newspapers in the region were printed there and other printing businesses were installed in the neighborhood. Currently, according to a census conducted by the research, 527 graphic arts companies, mostly small, are grouped in an area of about 20 blocks (Figure 1). The landscape of this small territory is occupied by the rhythmic sounds produced by the printing industry from 8:00 am until businesses start to close at 6:00 pm. After that time, the neighborhood's movement slows down, the sound decreases in intensity to shape a silent space, only interrupted by sounds of the night in an unsafe area. The location of the sound space shaped by the mass of the printers gathered in a small area showed a dynamic map that indicates the boundaries and fractures of the landscape from the sound. In San Nicolás, the environment generated by the printing industry traces a rectangular perimeter of 6 by 3 blocks, which shows three edges clearly defined by the sound of traffic in its main roads: calle 15 west side, calle 21 east side, and carrera 5th south side. The north border is characterized by the gradual disappearance of companies

and the deterioration of the buildings, creating a "silent" limit. In its streets, homeless people find shelter, occupying space with carts in which they carry recycled paper.

As usual, the historiography of the neighborhood has been reconstructed from mute documents, which leaves deficiencies regarding the environment in which the life of its inhabitants developed years ago. For example, before the arrival of electricity to Cali in 1910, there was no continuous sound background of low frequencies between 100 and 130 Hz, which today is present in the environment because of engines such as refrigerators, air conditioners, and electric transformers. At that time, in the landscape were heard domestic animals, bells, and street announcements. The arrival of electricity and public lighting led to new social dynamics that began to transform the soundscape by allowing prolonging the Sunday parties of the city squares until 9:00 pm. (Vásquez, 2001: 69).

In 1913, the cars arrive and they join the motorcycles that already roared around the city. There are documents that give an account of the public problems caused by the noise of vehicles at dawn hours (Vásquez, 2001: 178).

2.2 The method

From the interdisciplinarity of the team (architects, anthropologists, sociologists, historians, and artists), a broad and profound approach to different aspects of the neighborhood was designed in order to better understand the relationship between space, its sociocultural dynamics and its sound manifestation. For this purpose, a methodological route was built divided in several fronts that were able to establish different findings.

Through the research of public and private documents, it was determined how the graphic industry was occupying the neighborhood from 1894 until today. This information was spatialized through a digital cartography that shows the historical evolution since 1894. Another front investigated the process of urban and architectural consolidation since San Nicolás was a neighborhood with dirt streets.

For the field work, a methodology was designed to obtain spatial, perceptive and symbolic information from the perspective of researchers and residents of the neighborhood. The first step was to carry out a census to establish and map land uses with special attention to the business of the printing industry.

As a starting point, a theoretical review of the methods of analysis proposed by Southworth and Lynch, Murray Schafer and the Cresson Laboratory headed by Augoyard and Amphoux was carried out. The work of Lynch and Southworth has helped to relate the morphological to the perceptual, while that of Murray Schafer has allowed understanding the soundscape as an object of study with an aesthetic and ecological approach. Another important methodological reference is the work carried out in the Cresson Laboratory of the School of Architecture of the University of Grenoble, where a group of philosophers, sociologists, urban planners and architects are investigating the interaction between sound, space, and individuals. They incorporated fieldwork methods such as surveys, interviews, social cartographies and "reactive listening". Once the methodology was defined, three objectives were outlined: characterizing the sound landscape, determining its composition and evaluating the perception of its inhabitants.

In order to characterize the soundscape we used, the concept of the Musique Concrète "sound object", proposed by the French composer Pierre Schaeffer (2002) who redefined

the notion of noise positively considering all the sounds. Its definition allowed for different sonorities from aesthetic objects with their own entity and meaning. The sound object is not the source that produces the sound, but the sound itself, while establishing sensitive and meaningful relationships with a subject.

Through systematic and orderly listening sessions, the sounds that repeated the most were established, thus defining the sound objects. This allowed understanding the composition of the landscape as a sign of the neighborhood's culture in a classification close to Murray Schafer's concepts of Hi-fi and Lo-fi.

The analysis of the sonic composition of the space was done through listening sessions from 6:30 am to 7:30 pm. After this experience, we decided to particularize the study on three streets. To collect the information, registration sheets were designed (Figure 3) where the data was listed, and recordings and measurements of the sound pressure on the established time slots were made. Three streets were selected based on the density of printing businesses, vehicular and human traffic, and social dynamics.

1. Calle 17 between carrera 5th and 4th due to its high density of printing shops, its high vehicular and human traffic and its high commercial activity (Image 4).
2. Carrera 4th, between calle 18th and 19th, because is one of the main streets of the neighborhood with a medium density of printing shops, a moderate flow of people and little commercial activity.
3. Carrera 3th between calle 19th and 20th due to its high density of printing shops, its moderate vehicular traffic, and little human circulation.
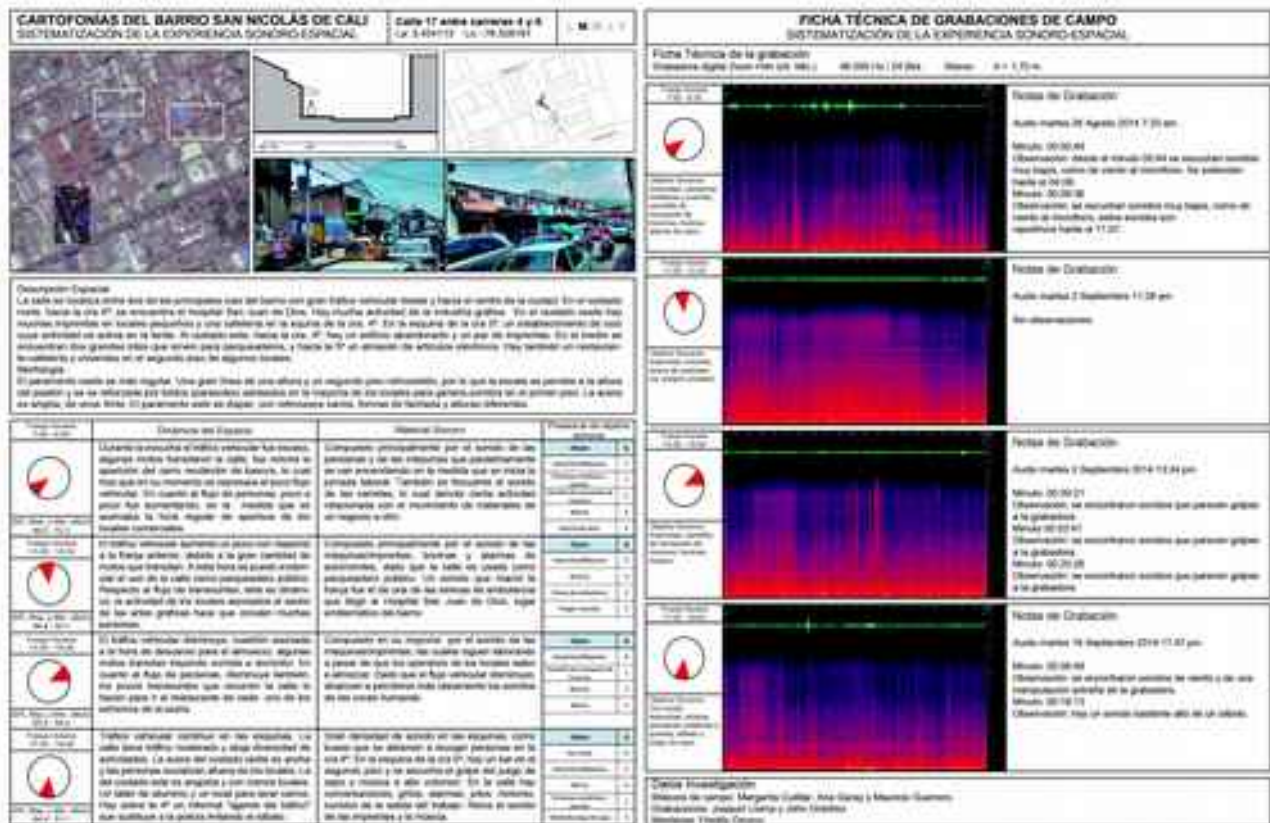
Fig. 2. Systematization sheet of 17th Street, Tuesday. (Source: own development)

Listening time slots on the three streets were chosen by taking into account the principal moments of transition between 7.00 am and 7:00 pm and were held two days a week (Tuesday and Friday) with different business dynamics, as reported by the interviewed workers.

1. 7:00 am - 8:30 am
2. 11:00 am – 12:30 pm
3. 1:30 pm – 3:00 pm
4. 5:30 pm – 7:00 pm

The methodologies introduced by the Cesson Laboratory were useful to inquire into the perception of the inhabitants. In order to establish the evocative effect of sound, defined by Augoyard (2005: 21) as *anamnesis*, surveys were carried out with workers from 247 businesses in the neighborhood. Focal groups and mental maps were also made with different inhabitants of the neighborhood to establish their perception of sound. Finally, sonographies were recorded as ethnographic evidence and as an open document that includes quantitative and qualitative information, from measurements of sound pressure and detailed descriptions of the sound landscape and its surroundings.

Fig. 3. 17th Street.

3   Results

Based on the "sound object" idea of Pierre Schaeffer (2003), the urban landscape would not be composed of noise but rather acoustic signs of a society that, as objects, establish meaningful relationships between individuals and society. In the listening sessions, the most frequent sounds were systematically counted, excluding those of traffic. The work resulted in a list of 16 "sound objects" from which 5 were considered to be the most frequent: a) the pounding of printing machines, b) the rubbing of the door or metal shutter that closes the premises, c) the rolling of the carts carrying supplies, d) the recyclers and vendors' trolleys and e) the music that, from radios and audio equipment, accompanies the daily life of the sector.

OBJETOS SONOROS: TOTAL	Q
Imprentas/Máquinas	157
Persianas metálicas/puertas	84
Carretillas de insumos	65
Música	34
Otras carretillas	15
Radio/TV	12
Pregón pregrabado	10
Voz social	10
Sirena de ambulancia	8
Alarma de carro	8
Bocinas	7
Pregón voceado	6
Herramientas	5
Juego de sapo	4
Silbato	2
Teléfono	2

Fig. 4. Sound objects score

The finding of five predominant sound objects is not a neutral set of noise but rather each of them has, from its acoustic manifestation, a role in the social dynamics of the territory. These sound objects have a historicity that links them to the past and justifies its appearance in the results with its own weight and not just as one more item. For example, the pounding of the machines, an identity sound sign of the neighborhood, not only marks rhythmically the pulse of the environment but also gives information about the proper functioning of the device to its operators. The old printing mechanical typesetting machines that survive, (30% of businesses have at least one according to the census) despite the appearance of lithographic and digital, have been reinvented as die cutting or numbering machines, refusing to silence their unique sound that links the past with the present.

Fig. 5. Print machine

The second sound object (the harsh sound of a metal shutter) is part of a technological modernization that occurred when wood began to be displaced by metal in carpentry. In the twenties, it already existed in Cali artisans of iron such as the Hurtado family who had a workshop in the downtown focused on blacksmith and carpentry (Vásquez, 2001). This door of articulated metal slats is now a common solution to the closing of businesses; therefore, its concentration in a confined space generates another characteristic sound object. Every day, a metallic sound, between 7:30 am and 8:00 am, is a temporary mark of a territory that goes off at 6:00 pm with the closing of the last shutter.

The third and fourth sound objects come from the wheels of the carts used to transport the paper and inks that travel through the pavement of the neighborhood, thanks to the dynamics of a business that has been collaborative because some shops print, some stamp, some varnish and others cut. The floor deteriorated by the traffic helps the movement of the trolleys to leave a characteristic soundtrack in the streets. The informal version of this means of transport is hand-built trucks, usually made of wood and used by street vendors or recyclers who also travel the streets. They are known as "carretas". Some have metal wheels, other plastic or pneumatic and are used to sell fruits, soft drinks, ice cream or coffee early in the morning.

The other found sound object was the recorded music which, although today it sounds from digital players, it has a long history. Many years have passed since orchestras and singers sounded by the crank Victrolas or automatic coin jukeboxes. Today, some establishments keep their vinyl records. Starting the Thirties *La Voz del Valle*, Cali's first radio station opened. Over time, American Westinghouse, Dutch Phillips, and Germans Punto Azul radio receivers began to appear. In addition, the Philco, the Telefunken, the RCA and the Emerson arrived (Vásquez, 2001). In less than a decade, the murmur of radio started being an important part of the neighborhood's landscape blurring the cars' engines that arrived in the city in 1913 and generated complaints about noise (Vásquez, 2001).

3.1 A Sound Territory[2]

Returning to and developing Lynch's concepts on the morphological and perceptual, it was established the existence of a *sound territory* with its own acoustic characteristics that contrast with the rest of the neighborhood's landscape and gives it an acoustic identity. The concept of *sound territory* proposed here, refers to a system of sound-spatial relations essential for the adaptation of the dwellers to the environment. Such a system is formed by a spatial set delimited and interconnected by nodes and sound flows with similar characteristics and some periodicity. The nodes of these networks are composed of sound objects that identify a space with their presence (Llorca, 2016).

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2 Fore more information on the concept of "sound territory" see:.Llorca, J. (2016). Paisaje sonoro y territorio. El caso del barrio San Nicolás en Cali, Colombia. *Revista INVI, 32*(89)

Two characteristics were defined for the characterization of the sound territories, one structural and one acoustic. The structure of the sound territories can be assimilated to topological spaces in which characteristics such as proximity, consistency, density or texture, connectivity, etc. come into play. The acoustic condition is given by a relationship between the sound objects from their physical qualities such as amplitude, frequency, and timbre (Llorca, 2016).

3.2 The Perception of the dwellers

In addition to analyzing the neighborhood from the researchers' perspective, surveys and mental mapping with focus groups were held. 247 surveys were conducted in business related to the graphic arts. The perception of the local people was examined through focus groups with graphic arts business owners, printing machine operators and customers of the industry. In these groups, there were proposed dialogues about the location of significant sounds and the acoustic qualification of the neighborhood through the building o f a m e n t a l m a p o f t h e s e c t o r .

Since the neighborhood has roads that cross the city and become key paths for vehicular mobility, one of the main negative aspects mentioned in the talks was the sound of traffic.

In focus groups with residents, it was found that for some of them there were other meaningful sounds such as the church bells -a mark of the beginning of the day- or the fire siren from a nearby neighborhood where in the past it was heard always at noon. The discussions also confirmed sounds detected in the listening sessions, such as street vendors carts around 7:00 am when traveling to places where they offer coffee. Its sound is clear and can be considered a sound mark that announces the start of the day thanks to the quiet morning soundscape that does not mask it. It was also mentioned with pleasure, the songs of the birds that inhabit the trees of the park, a sonic oasis among so many automotive traffic roads.

4   Conclusion

The use of soundscape as a transversal concept of study between disciplines such as urbanism, history, architecture, art and social sciences is a valid tool that promotes, thanks to interdisciplinarity, each field of study.

The interlocution of the different professionals in matters such as history, space and the sensible, give rise to the construction of tools for a better management of our environment.

Questioning the documents in search of features of the previous soundscape presents new perspectives on the past and the present, given that history has presented, in most cases, a silent society. The historicizing of the environment contributes valuable information on the process undergone by the landscape to the present state. On the other hand, characterizing the soundscape of a place allows understanding social dynamics that reveal intangible goods of the culture. It also allows understanding the role that urban morphology and land uses play in the construction of the environment. Knowing the sound composition of a place in its physical, aesthetic, social and cultural dimensions contributes useful information to the urban design.

Industrialization brought to the world a change in the soundscape with the incorporation of mechanical sounds. These sonorities are rightly associated with the concept of noise, however, the acoustic expression of some trades that today continue to function between the industrial and the artisan, are added to the material culture that welcomes them incorporating them into the everyday life of those who participate in a habitat. Some of the sound objects that make up the territory of San Nicolás give account for historical processes and social dynamics.

The formerly industrial "noise" of the printing machines is not itself a *lo-fi* soundscape but rather, depending on the relationship established with the environment, it can be part of a balanced soundscape that inserts into its ambient sounds that identify it. In San Nicolás, machines provide the acoustic condition to the territory, since they subtly add its rhythm to the landscape composing a true industrial symphony.

The sound objects that compose it help to form a discernible landscape according to Lynch's concept of "legibility" (1998: 11). The *sound territory* is an expression of a habitat that, although it can and must improve, should be taken into account to make positive interventions in favor of a more balanced soundscape that maintains identity features and articulates the coexistence of printers and housing.

Many of the older machines still survive and reinvent themselves. Therefore it is advisable to preserve the memory of a craft of proven tradition and rootedness, articulating its coexistence with the housing. According to Southworth, "in many cases the design of soundscape itself could be a way to make a city less tense, more enjoyable and informative for those who live it" (1969), therefore, the analyzes and diagnoses that are made to do urban interventions, should support positive actions towards a more balanced soundscape, that keeps its identity features.

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20. Innovative, industry-based projects to augment sonic expressions in everyday life

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Abstract. This paper reports on two industry-funded grants intended to explore ways that sound can contribute to urban design solutions. The first project, *Acoustic design innovations for managing traffic noise by cancellation and transformation*, funded by a Transurban Innovation Grant, is an interdisciplinary project that explores a number of experimental approaches to interfacing with urban motorway noise. The second project, *Clyde North community precinct integrated public art project*, funded by the City of Casey, is a collaborative council/university research project that focuses on sound as a form of placemaking to promote social inclusion and community engagement. Both projects are real-world examples of claims made in recent publications by the author that the sound artist can work with urban designers, planners and industry to create meaningful sonic experiences in the context of everyday life.

Keywords: sound design, urban design, artistic research

1   Introduction

There is increasing awareness of the importance of the impact of sonic environments on our experience of everyday life (LaBelle, 2010; Voegelin, 2014; Meelberg and Cobussen, 2010) and of the role played by creative intervention in shaping those everyday sonic environments (Thibaud, 2013; Ouzounian, 2008; Anderson, 2016). This shift in thinking points to urban design approaches that understand the impact of sound on our experiences, and the ways in which sound design might augment, and even transform, the everyday experiences of city life. My personal artistic practice (Lacey, 2016a) has sought to discover diverse ways in which a sound artist might interact with the city via the 'sonic rupture model', and my research examines a variety of attributes of existing urban sound installations that successfully act as examples of 'sonic placemaking' (Lacey, 2016b). The sonic rupture model and the concept of sonic placemaking are both predicated on the notion that through the development of relationships between practitioner and environment, it is possible to create a sonic ambiance that encourages city dwellers to engage with their city in new and imaginative ways.

This paper presents two projects presently being completed in Melbourne, Australia, that seek to enhance people's everyday experiences with urban sounds. Both projects address the existing sound environment as is, rather than deeming the urban environment depleted and in need of repair, or otherwise damaging to human listening capacities. Each project integrates a design intervention, which will extract qualities from the pre-existing soundscapes, into an existing environment. The projects seek to balance the esoteric with the pragmatic, a necessary plurality as discussed in *Sonic Rupture: a practice-led approach to urban soundscape design* (2016), by recognising and utilising the power of sound to produce profound experiences, and articulating the pragmatic means and measures that sonic practitioners can use to interface with local industries and infrastructures. As stated in *Sonic Rupture*, "there is no reason to assume that developers and governments would not welcome […] changes to their own practices. The challenge for […] creative practitioners is to convince them of how our efforts can augment their own.

[…] This can be achieved by embedding creative works at the beginning of the lifecycle of urban design and development that enhance feelings of social inclusion […] and engender unique meaning for communities" (177-8).

The first project, titled *Acoustic design innovations for managing traffic noise by cancellation and transformation*, is funded by a Transurban Innovation Grant. Transurban are an infrastructure group operating in Australia and the USA; they build and manage toll ways. This is the second design innovation project to be funded by Transurban. The project proposal generated interest within the company thanks to the proposal's unique suggestion that both engineering approaches to noise cancellation and artistic approaches to noise transformation could be explored in combination to help manage motorway noise. Ethnographic studies will follow the installation of the combination system, to document community attitudes to the project's sonic changes.

The second project, entitled *Clyde North community precinct integrated public art project*, is funded by a local government council in South-Eastern Melbourne. The City of Casey are interested in the possibilities of sound art as a placemaking tool that will serve the local community. The outer suburbs of Melbourne are growing rapidly thanks to the process known as 'urban sprawl'. In many cases, suburbs are being built minus public transport and commercial zones, both of which are essential to the working livelihoods of local community members. The integrated public art project will attempt to use sound as a possible way to create a collective point of community interest and connection.

It should be noted that this paper is a conceptual exploration of the relevance of these projects in relation to certain claims made in my recent book, *Sonic Rupture*. Further papers, co-authored with my research collaborators, will report on the outcomes of these research projects. This paper will consider the fact of a sound artist interfacing with private and public organisations to design new sonic environments that improve the urban experience. No publically accessible outcomes have been produced at this stage – although given present developments both research teams will be reporting on some successful outcomes in the near future. Of particular importance in this paper is the notion that practitioners and researchers who consciously maintain an inclusive, affirmative attitude to the urban – not one of correction, or dissimulation – will best support public and private organizations looking to improve the livability of global cities with the help of academic research.

2 Project 1: Transurban Innovation Grant

Acoustic design innovations for managing traffic noise by cancellation and transformation will be the second innovation grant funded by Transurban. The grant is intended to support innovative projects that address challenges in the areas of transport and infrastructure, and was awarded to our research group while I was working at RMIT University's Design Research Institute (DRI), which has recently morphed into the Enabling Capability Platform (ECP). Both organisations recognise the potency of interdisciplinary research, and thus include academic staff and research centres from a variety of disciplinary backgrounds. During the existence of the DRI, I was introduced to Professor Xiaojun Qiu, a world-leading expert in acoustic engineering, who was involved in projects testing a proprietary Active Noise Cancellation (ANC) system called Antysound. I was also connected to

Associate Professor Lawrence Harvey, director of RMIT's SIAL Sound Studios, who is an expert in spatial sound design and electroacoustic composition and curation. My own expertise centres on the interrelationship of urban design and the sonic arts. It seemed a great opportunity to bring together the two distinct disciplines of engineering and design – each with an entirely different sonic methodology – for the purposes of experimentation. To enhance the potency of the project, Professor Sarah Pink, an intellectual leader in international ethnography, has been invited to conduct an ethnographic study on the final field tests to see if, and how, the community responds to the new sound environments. Transurban decided to fund the project for a total of A$100K, which was a remarkable commitment given the open-ended and exploratory nature of the proposed innovation.

2.1   Project concept

The proposal reduces the complex methodologies of acoustic engineering and sound design to two key phrases – noise cancellation and noise transformation. A third phrase – combination – is put forward as a potential means of connecting the two approaches. Noise cancellation is in fact the application of a proprietary Active Noise Cancellation system (ANC) called Antysound that is able to reduce very low frequencies (below 300Hz). It works best when the middle and high frequencies of a noise source have been successfully attenuated by other means. In the case of roadside noise management, the ANC system works best when integrated with well-designed sound walls that successfully attenuate frequencies over 300Hz. However, even casual listening quickly reveals that not many sound walls can achieve this. It is likely that even if the system successfully reduces the low frequency sounds, the middle and high frequency sounds will not be attenuated enough to enable the listener to perceive the reduction.

In addition to the exploration of noise cancellation, which we might speculate has more immediately obvious commercial application and interest for Transurban, the project proposal also introduces the concept of noise transformation – a live feed of a noise source is captured and passed through some type of creative algorithm, then played back through a set of speakers so that the normal sound environment and the transformed sounds mix together. A key proponent of this approach is Agostino DiScipio, who invented the concept of 'Audible Ecosystemics' (Di Scipio 2003). *Sonic Rupture* presents multiple approaches to noise transformation, including DiScipo's – however, as the book points out, the Audible Ecosystemics approach is focussed on gallery and concert hall conditions rather than urban environments. It could be suggested that noise transformation is an inferior counterpart to noise cancellation in relation to the project's overarching commercial interests. Yet I would contend that this is not the case – certainly in my own dealings with the sustainability department within Transurban, who administer the Innovation grant, there was repeated interest in both the idea of cancellation and transformation, and how they might work in combination to improve community wellbeing.

The proposal is broken up into two phases. The first is a series of laboratory tests at SIAL Sound Studios, where engineers and designers will jointly apply their methodologies within the same environment in order to develop the combination system. Opportunities – disguised as conflicts – are anticipated, given that engineers tend to measure environments for quantitative changes while designers tend to listen with their ears for

aesthetic improvements. The second phase will take the equipment into the field, where new sound environments will be presented to community members, who will have the opportunity to provide feedback. Ethnography is perfect for this work, as it tends to favour sensory perception, and attempts to build a picture by asking people to reflect on their own sensory responses and feelings in relation to the environments to which they are exposed. Sarah Pink states that "it develops an approach to the world and to research that accounts for how sensory ways of experiencing and knowing are integral both to the lives of people who participate in our research *and* to how we ethnographers practice our craft" (Pink 2015:x). The research team hopes that a number of sound environments will be discovered that will be of interest to the community, and which might be replicated in future infrastructure projects.

2.2   Response of industry partner

The project proposal has identified spaces that are rarely considered when we think of motorway design. Often we might consider the driving experience, both aesthetically (sound wall look and feel) and in terms of safety[1]. When we consider the non-road side of these walls, we more often than not consider appropriate acoustic design of housing to protect people from motorway noise. The primary innovation of this project is that we are asking the industry partner to focus on an oft-neglected aspect of the urban – the parklands that adjoin motorway sound walls. Many sound walls create rather detached, almost surreal environments that cut straight through pre-existing residential areas. Despite the international success of sound walls in reducing traffic noise, "the visual and aesthetic problems related to noise barriers [have] acquired an increasingly negative tone", with terms such as the "new Berlin wall" being used by some authors to describe their community impact (Bijsterveld et al., 2013:109). This research project seeks to explore and address this strange divisiveness not just through noise mitigation, but by considering the possibility of design within the networks of interstitial spaces along the non-road sides of the sound walls, which act as parks, walking/bike tracks and unutilized grassy areas.

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[1]The importance of roadside safety is evidenced by the first Transurban Innovation Grant recipient, Dr. Thomas Fiedler, who is developing revolutionary new material for a new road safety barrier prototype.

Fig. 1. Four examples of Melbourne-based non-roadside sound wall locations.

From a noise complaint perspective, Transurban are likely to be more interested in attenuating noise impact on residential housing than developing open grasslands. For instance, Transurban personnel reported to me during a field trip that a possible response to noise complaints is to double glaze windows and install air-conditioning. Admittedly, such measures create a quiet zone inside the house, yet they isolate household residents from the outside environment. Indeed, the research team are aware that ANC equipment could be installed in residential housing or even in people's backyards, as it can along soundwalls, and this will partly drive our research interests. However, our central proposal is to turn these parklands into new listening environments that might entice people to leave their homes and enjoy the parklands abutting the sound walls. There is no suggestion that these proposed environments would be better than completely removing the traffic sound. For example, placing the road underground, or accelerating the introduction of battery powered cars, or improving the technologies of tyres and road materials would clearly be superior solutions. However, given that for the foreseeable future, due to economies of scale, communities are going to have to continue to live with roadside noise, our research

proposes that by employing the services of urban sound designers, existing parklands can be recreated into exciting, restorative and even evocative places of experience.

To date, our industry partner seems content to observe the research as it unfolds, and to participate in future workshops with the research team to suggest possible applications of the research to future motorway design. Of course, commercial application is of primary interest to a private corporation, and it is plausible that the ANC system could present such possibilities along sound walls and in the houses of adjoining residencies (Qiu, 2013). However, we will propose that there could also be commercial applications relevant to the installation of soundscape systems (Harvey, 2013) that improve urban livability along motorway soundwalls. Our industry partner has clearly adopted a helpful, wait and see attitude, and is quite open to the experimental nature of our research, which works towards both the possibility of attenuating noise and creating urban ambiances that aim to provide local communities with restorative, or even evocative sound environments. To reiterate, this is not an attempt to apologise for the proliferation of motorway noise by ameliorating its affects through aesthetic intervention, but simply to say that, when such sound environments are completely unavoidable, the sound designer has a crucial role to play in soundscaping those environments to improve urban livability.

3   Project 2: Clyde North community precinct integrated public art project

Clyde North community precinct integrated public art project is funded by the City of Casey, which is a local council in Melbourne's southeast suburbs. As stated in the brief presented to the artists, artworks should "enhance public space and community facilities in Casey, reflecting aspects of the area's unique heritage, attributes of local neighbourhoods and aspirations of its local community through a diversity of contemporary art forms". The location of the artwork is of considerable interest to our research team, as it was the site of a previous collaborative research project involving another RMIT research team whose recommendations would go on to inform design and planning of future residential communities in Melbourne's fringe suburbs, which are continuously expanding. That research team was focussed on the problem of sprawling residential real estate development minus the local resources that lead to happy communities – public transport, parks, walking tracks and other community-based amenities[2]. In response, that research team contributed to the development of a suburb called Selandra Rise during its planning and building phases, as a means to integrate, as much as possible, local resources in the design and planning phase. Our proposed research will try to address some of the place-based issues raised by the previous researchers (Maller and Nicholls, 2013) – we intend to increase community engagement and happiness by integrating an interactive, multisensory artwork into the new community centre plaza. The work would be sensitive to the existing infrastructure left by the prior project – especially its walking tracks and parkland. Essentially, the artwork would become part of an interesting route running through the suburban environment.

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2 See https://www.vichealth.vic.gov.au/media-and-resources/publications/selandra-rise for more information.

3.1   Project concept

A small interdisciplinary collective of researchers called the Augmented Landscapes Laboratory (ALL) are working in collaboration with a design team from the City of Casey. ALL is comprised of world leaders from the fields of landscape architecture and the arts (Dr. Charles Anderson), interior design (Dr. Ross McLeod), interactive systems (Chuan Khoo) and myself as lead sound designer. As a collaborative group it is our intention to design atmospheres and ambiances that enhance the experience of urban space. The group works with local councils to embed artworks at the beginning of the lifecycle of design and planning projects. The Casey group comprises landscape architects, urban designers, architects, builders and a public art officer, each working with our research team to fully integrate the design into the community center plaza. The council is particularly interested in the concept of placemaking (Fleming, 2007). How do we create spaces that people feel belong to them? Places of community engagement and activity, like the town squares that acted as places for socialising and commercial activity? Can local (sub)urban settings become points of relaxation and rest (Whyte, 1980)? This collaboration seeks to create a place that can become a point of civic pride and – it is hoped – meaningful experiential encounter.

The artwork itself is a complicated amalgam that began as a conceptual exercise in which we designed an 'other' that would inhabit a space for the purposes of interacting with the local community. The conceptual framework of the 'other' gave the research team a focus for the process of placemaking. Evolving from this initial conceptual phase, we sought to embed a set of experiences in the plaza of the community center that would concentrate on the affective responses of the body. The experiential infrastructure includes transducers, electroacoustic speakers, lighting, interactive systems that respond to the movements of bodies and environments, and designed (sandstone or basalt) rocks specially shaped to integrate with the immediate environment. Although the proposed multisensory atmospheres must be considered in combination, this paper will focus mainly on the sonic components, which are the most immersive aspects of the piece in regard to user experience.

3.2   Response of the industry partner

One of the contractual obligations of this grant is to develop four separate design presentations for the council. The presentations act as milestones in which the research team can present the ideas as they evolve throughout the process. This ensures integration, as the ideas for the artwork respond both to limitations and opportunities set by the landscape architecture team, and by ideas presented by the previous RMIT researchers. There is much to write about the unfolding process of this design, which will be reported on in future papers. However, for the purposes of this paper, only the vibrational aspect of the work will be discussed. In particular, an experiential moment during one of the presentations in which the possible sonic expressions of the artwork became central to the design objectives of both council and university.

The use of transducers to vibrate architectures is a specific form of sound art. My own introductions to the art form were through the practice of Melbourne-based sound artist Eliot Palmer (Lacey, 2016a: 168). I worked on a project with Palmer in 2015 titled *Contain Yourself* in which two shipping containers were vibrated with 'ButtKickers', proprietary transducers that specialise in the transmission of low-end frequencies. We were struck with the meditative qualities of the work. People would lean against the metal surfaces and absorb the vibrations of the containers and listen, intrigued, to its rumbling sounds[3]. While experimenting on vibrating various structures using ButtKickers for this project, I became interested in the notion of vibrating ground surfaces.

Fig. 2. This sheet of 8mm steel has a transducer attached that can be seen at the back left. The transducer creates vibrations that pass through the body and any other materials that are in contact with the vibrating surface. Dr. Malte Wagenfeld, who was providing critical feedback at this stage of the project, is pictured.

To demonstrate this principle, for the first design presentation, the research team sourced a large sheet of 8mm steel, approximately 1 x 0.5 meters, and attached a ButtKicker to the edge of the steel plate. The plate was raised off the ground with some bricks. Low-end synthesizer sounds that passed through an LFO, with variable 'amount' and 'rate' parameters, and into the transducer caused the steel plate to vibrate in different ways. When standing on the steel plate, the vibrations would pass from the steel plate into the body, causing full integration between body and material. The impact of this moment was enhanced with both Chuan Khoo's interactive system design and Ross McLeod's sound column[4]. This critical juncture of the design process demonstrates the power of sound, in this case vibrating surfaces, to create a visceral affect. It was this affect that immediately refocussed the direction of the artwork. Indeed, it was clear to us that what can be presented in exposition over several hours can be achieved in an instant with the right bodily experience.

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3 For an extract, visit https://soundcloud.com/hiddensounds-jl/live-industrial-soundscape.
4 See the bottom image at http://www.rossmcleod.com/thisness.htm.

From this point onwards, the idea of *shaking the ground beneath our feet* become critical to the artwork. It is the fully-immersed body, vibrating with an expressive landscape, which will potentially allow this artwork to create such a unique public experience. Via its sonic expressions, the land speaks though the body. Of course, it will not be until completion and observation of user interactions that we will know if the community embraces the idea as enthusiastically as the researchers. However, we are confident that by integrating art into the landscape, such that the built landscape becomes akin to a living thing, the community will build a relationship with the place. This is an act of placemaking that attempts to weave body and place – literally connecting the human body with the landscape by exchanging vibrations across living and non-living bodies.

A final point on the concept of vibrating surfaces is that in addition, it may be possible to embed large interactive stones amongst these surfaces. The mixture of vibrating surfaces and stationary stones protruding from the landscape evokes a sense of exploration and geological dynamics. To we researchers, the vibrating surfaces became conceptually synonymous with plate tectonics, and the protruding stones with geothermal structures. The idea at present is to collect high quality recordings of geothermal features such as geysers, mud pots and hot springs. At certain times of the day these sounds will be played from environmental speakers beneath the vibrating surfaces, enhancing the sense of release and dynamism we might associate with geothermal sounds. Through their connection, the sounds played and the vibrating surfaces are expected to create an immersive experience that, hopefully, will become a point of attraction for the community and successfully fulfill the role of a placemaking artifact[5].

4   Reflecting on cross-research connectives

As the lead researcher and contract manager on both practice-based research projects, it is interesting to consider conceptual and practical consistencies across both projects – reflections that may be applied to future research projects.

Both projects are examples of artistic practice, and as I state in my book "it is possible for the creative practice researcher to take the process of knowledge production a step further, by reflecting on the totality of the project work. At this stage, the practitioner is producing knowledge that moves beyond the mechanics of the making process" (Lacey, 2016a: 132). I will briefly provide three points that evolve from reflections transversing both projects.

4.1   Connective infrastructures

On the Transurban website, one can find details about an upcoming project called "The Monash Freeway Upgrade", which is expected to terminate at Clyde Road – the main road feeding Selandra Rise. Both projects reported on in this paper have no relationship with each other at all, and yet there is a clear real-world infrastructural relationship. The Clyde North area – including the Selandra Rise suburb – is a car-dependent location. Many of

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5 At the time of writing the research team were thinking of the possibility of applying locally recorded sounds rather than geothermal sounds. The conversation continues, and the actual outcome will be reported on in future publications.

the cars that drive through Selandra Rise on their commute to other areas of Melbourne may well pass the artwork as they head towards the Monash freeway, and indeed hear it should they stop for their morning coffee. The imagination stirs at this point as to what could be achieved if infrastructure developers embedded sound design into their initial designs. One could imagine the daily commute not just as a functional act, but as an imagined creative experience. Not just the passing by of artworks, but the thought of ones own motor car becoming the sound source for new sound environments lining the non-roadside areas of a sound wall. When we speak of creative cities, we might think of culture and creative industries – or more concretely, artworks embedded in the environment. But what if we were to think of creative cities as places where the creative – via participation, interaction, sharing, experiencing, imagining – is integral to everyday life? This would require a radical shift in thinking across corporations and councils, to consider the creative act as part of all stages of the development process.

4.2   Community wellbeing

It is interesting to consider comparisons of the stated strategic visions of both organizations, one being corporate and the other government. On their website, Transurban states "at the heart of our business strategy is the desire to be a partner of choice for our government clients […] we aim to provide effective transportation solutions to support the growth and wellbeing of our cities and to strengthen communities through transport"[6]. And the City of Casey, which has a multifaceted vision, describes in their overview that they want to "ensure we truly have the most safe, caring, innovative and sustainable city possible"[7]. Taking this rather rudimentary comparison we can see that the terms 'wellbeing' and 'care' are prominent, as is the importance of promoting social cohesion. It is not my role to vaunt their visions for their validity, accountability or motivation. However, as a practice-based researcher, what I note is that across two very different types of organizations there is at least the *recognition* of the importance of wellbeing to communities, and indeed the utility of using innovative strategies to achieve this. What this demonstrates is that the artistic researcher, who is willing to respond to the structures of organizational language, has an opportunity to embed real change, and inspire new ways of working that lead to real-world results.

4.3   Sound as new frontier

Following on from the former point, these projects suggest an emerging consciousness within the mainstream organizational structures of society of the importance of sound to our everyday lives. In both projects, sound is prioritized as the medium for experimental research, and directly linked to community wellbeing. There is, of course, a long history of calls for soundscape design. Schafer (1977), Truax (2001), Augoyard and Torgue (2005), and more recently Thibaud (2013), Ouzonian (2008) and Anderson (2016) variously call for recognition of the importance of sound in the public environment and the manner in which creative arts and design processes can aid placemaking practices. However, it is one thing to talk about community wellbeing, but quite another to actually achieve it. It is contingent

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6 See https://www.transurban.com/about-us.
7 See https://www.casey.vic.gov.au/council/c21/vision-for-our-future.

on the willingness of the artistic practitioner to step up and interface with public and private organizations in ways that implement real change. Increasingly, sound artists are perceived as part of a broader network of artistic researchers. These projects demonstrate that indeed real-world experimental sound design work to foster social change via community engagement is possible, should corporate and government organizations be met with the language they themselves have expressed.

5 Conclusion

Both the Transurban-funded *Acoustic design innovations for managing traffic noise by cancellation and transformation* research project and the City of Casey-funded *Clyde North community precinct integrated public art project* demonstrate that the power of sound design to shape public environments is becoming increasingly recognized amongst key mainstream infrastructural organizations The willingness of these organizations to fund experimental research related to sound design and artistic practice suggest that it is contingent on creative practitioners to take an affirmative view to working with corporate and governmental agencies, and use their skills, tools and expertise to promote real social change through the enhancement of community wellbeing and engagement. Perhaps such projects foreshadow a new role for the artist – in this paper's case, the sound artist – who can now direct their energies outward into the world, and work with organizational structures to promote genuine change in the public environments of our cities, rather than isolating works in galleries and concert halls. It seems that there are those within these organizations prepared to have these conversations. It is incumbent on the artistic researcher to respond accordingly.

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21. The *solfège* of technical objects: a few notes on the potential contribution of Simondon to sound studies and arts

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Abstract. After presenting a brief introduction to the extended meaning of 'solfège' since the theoretical and artistic work of Pierre Schaeffer, the text summarizes the philosophical work of Gilbert Simondon and seeks to outline its potential contribution to the fields of musical and sound studies and practices. Simondon's concepts of 'individuation', 'transduction', 'information', 'modulation' and others are exposed as well as the main critical analysis he makes of hylomorphic perspective. The text corroborates the philosopher project to look for a more congruous and well-balanced coupling between human and technical beings and sustains that, today, this approach with regard to sound practices demands a 'solfège of technical objects' that may have not only theoretical and artistic reverberations on how we deal with sounds but, also, political and ethical consequences.

Keywords: solfège, technology, technical object, Simondon.

1   Introduction

The practices and the very concept of what is related to the term *solfège* were deeply transformed since the post-war music and sound practices. This happened through the creative and theoretical reconsideration of *solfège* by Pierre Schaeffer (1996: 490–508) and due to the development of techniques and technical objects that changed how we imagine, create, perform and listen to sounds and music.

It is also in this particular context of the post-war period, when new technological resources such as the studio equipment and the first digital computers had a growing impact in sound and music creation, production and diffusion, that Gilbert Simondon wrote his works *L'individuation: à la lumière des notions de forme et d'information* (Simondon, 2005a) and *Du mode d'existence des objets techniques* (Simondon, 1989) – both published in 1958. While in the first and main thesis Simondon develops a new philosophical framework to address the issue of ontogenesis through the concept of individuation, the second one leverages the outcomes of this new formulations and throws a new light on the question of technique and technical objects.

If the work on individuation can enrich sound-studies by giving new conceptual tools to think about *dephasing*, *information*, *transduction*, *modulation* and other key terms to Simondon's thought, the thesis on the technical objects is of interest to a broader reconsideration of musical practices that, once, were themselves redefined by Schaeffer's *solfège généralisé* and his *programme de la recherche musicale*. We imagine, listen, create and perform sounds and music through the mediation of technical objects and techniques.

246

Practices and approaches as those proposed by Schaeffer and other post-war composers and artists could only flourish and develop because of the concomitant development of new techniques, technical objects, and technical ensembles – such as the amplification, the microphone and the radio studio, respectively.

These resources not only allow us to do all these activities in new ways, but also require us to understand their technical particularities, which conform our mediated interactions with sounds and with our own imaginative and auditory faculties. In other words, through this new means one is not only introduced to new dialogical relationship with sounds: they also challenge the subjects of musical and sound practices mediated by technical means to have analogous dialogical interactions with the human gestures and intellectual processes that, as will be shown from Simondon ideas, are set down in the dynamic gears, parts and procedures of the technical objects.

This paper presents some of these concepts and ideas, relating them with the sound listening, imagination and creation practices that are summarized in the already extended meaning that the term *solfège* carries since Schaeffer. Particularly, the text aims, on the one hand, to introduce Simondon's thought into the fields of sound arts and studies and, on the other, it intends to outline the potential reconsideration of these practices starting from the pursuit of an active interpretation of the technical objects that mediate our activities.

2   *Solfége*: the individuation of sound objects through technical objects?

One of the reasons that Schaeffer gives to justify his *programme de la recherche musicale* and his project of a *solfège experimentale* is the diagnostics that, in fields such as music theory, education and composition, it was possible to identify the primacy of activities of sound production and fabrication according to certain kinds of "schemes, notations or intentions" – i.e., *théme* – at the expense of listening and the effort to refine our perception of sounds – i.e., *version* (Chion, 1983: 90; Schaeffer, 1996: 147). The project of his new generalized *solfège* was, briefly, to offer methodical resources to develop "the art of better listening", inverting the unbalanced relation between *making* and *listening*. This was proposed by presenting conceptual and methodical tools to identify, describe, analyze and manipulate *sound objects*. The schaefferian *solfège* aims, precisely, to enable, among other things, the identification of individual *sound objects* by recognizing the qualitative features that allow us to "isolate them from the sound chain" (Chion, 1983: 35) and the recognition of their morphological characteristics, providing new concepts and parameters to qualitatively describe them. This is done through *reduced listening*, that depends, largely, on the mediation of technical objects and the new techniques that they enable: notably, the 'cut bell' and 'locked groove' are the two primitive experiences that, latter, would be developed in concepts like *reduced listening* and *sound object*.

It is possible to relate Schaeffer's *solfège* to the two main subjects that Gilbert Simondon develops in his theses: *individuation* and *technology*.

In approaching the *solfège* from the perspective of Simondon's theory of *individuation* and his philosphy of technology, the *sound object* very existence depends, on the one hand, on its *individuation*. In other words, it exists, as an *individual sound object*, from the moment of its dynamic detachment (*individuation*) from a background sound chain through a process that, applying the philosopher terminology, takes the name of *transduction*. On the other hand, the very recognition, description, analysis and manipulation of these objects depend on the mediation of specific *technical elements*, *technical objects*, *technical ensembles* and *techniques*. In fact, despite the focus on *listening* and on the proposition of procedures and concepts to deal with sounds, this new *solfège* emerged and developed from the direct manipulations and experimental interactions with the technical objects found in the studio. It was by using tools such as the turntable, the mixer, the *phonogène* or even developing and applying specific idiosyncratic inventions such as the *potentiomètre d'espace* (Manning, 2004: 26) that Schaeffer worked and had key insights for his theoretical and artistic work – as it happened, as said, with the 'cut bell' (Schaeffer, 1998: 15–16)

To establish viable connections between these and other simondonian concepts and the sound practices and studies that can be related to the term *solfège*, it is worth to sketch out the main ideas developed by Simondon.

3   Dephasing, information, transduction

In the thesis on *individuation*, Simondon's perspective on ontogenesis is preceded by a critic on both *substantialist* and *hylomorphic* views on the subject.

> The reality of being as an individual may be approached in two ways: either via a substantialist path whereby being is considered as consistent in its unity, given to itself, founded upon itself, not created, resistant to that which it is not; or via a hylomorphic path, whereby the individual is considered to be created by the coming together of form and matter. The self-centered monism of substantialism is opposed to the bipolarity of the hylomorphic schema. However, there is something that these two approaches to the reality of the individual have in common: both presuppose the existence of a principle of individuation that is anterior to the individuation itself. (Simondon, 2005a: 23; 2009: 4)

Instead of taking the individual as granted, we should try to understand the very process of individuation and "to know the individual through the individuation, rather than the individuation through the individual" (Simondon, 2005a: 24; 2009: 5). This initial consideration is that the very process of *individuation* must be carefully investigated and that it does not result just in the *individual*, but creates the pair "individual-milieu".

> *Pre-individual being is being in which there is no phase*; the being in which individuation occurs is that in which a resolution appears through the division of being into phases. This division of being into phases is becoming. Becoming is not a framework in which being exists, it is a dimension of being, a mode of resolution of an initial incompatibility that is rich in potentials. *Individuation corresponds to the appearance of phases in being that are the phases of being*. (Simondon, 2005a: 25; 2009: 6)

As it is known, the word *phase*, in physics, can have distinct meanings when used to address different *phases* of matter and the *phases* of oscillating waves. While the first

connotation illustrates the separation of substances in a chemical mixture (water and oil, for instance), the second one is likely to be closer to the dynamism of the process that Simondon understands as the operation of *individuation*. Ultimately, an *individual* appears when it detaches itself from this background homogeneity and becomes, dynamically and in relation to it, *out of phase*.

According to Simondon, the structures that comprise the individual arise not from some sort of demiurgic association between a given passive *matter* and an equally abstract *form*. They spring up rather from the process of *allagmatic[1] exchange* of energy – *transduction* – that informs the being "from part to part" and in different orders of magnitude – i.e. both from inside and from outside of what will be the resulting individual. In the place of the notion of *form*, says Simondon, we should think about *individuation* in terms of *information*. Not, however, the *information* being conceived as the "signals or to the supports or carriers of information in a message, *as the technological theory of information tends to do*" (Simondon, 2005a: 35; 2009: 12), but *information* considered as the *momentum of individuation*: *information* demands the *dephasing* of preindividual being and its subsequent division into *individual* and *milieu*.

Information...

> ...is a *demand for individuation*, for the passage from a metastable system to a stable system; it is never a given thing. (...) Information can only be inherent to a problematic; it is *that by which the incompatibility of the non-resolved system becomes an organizing dimension in the resolution*; information supposes a phase *change of a system*, because it supposes an initial preindividual state that individuates itself according to the discovered organization. Information is the formula of individuation, a formula that cannot exist prior to this individuation. (Simondon, 2005a: 31; 2009, 10)

If *information* can be understood as the *demand of individuation*, the process that propagates *information* and describes the dynamical process of *individuation* is termed *transduction*.

> By transduction we mean an operation – physical, biological, mental, social – by which an activity propagates itself from one element to the next, within a given domain, and founds this propagation on a structuration of the domain that is realized from place to place: each area of the constituted structure serves as the principle and the model for the next area, as a primer for its constitution, to the extent that the modification expands progressively at the same time as the structuring operation. A crystal that, from a very small seed, grows and expands in all directions in its supersaturated mother liquid provides the most simple image of the transductive operation: each already constituted molecular layer serves as an organizing basis for the layer currently being formed. (...) Transduction can be a vital operation; it expresses, in particular, the direction of the organic individuation; it can be a psychic operation and an effective logical procedure, even though it is not limited to logical thought. In the domain of knowledge, it defines the veritable process of invention, which is neither inductive nor deductive, but transductive, which means that it corresponds to a discovery of the dimensions according to which a problematic can be defined. It is that which is valid in the analogical operation. This notion can be used to understand the different domains of individuation: it applies to all cases where an individuation occurs, expressing the genesis of a network of relations founded on being. (...) Transduction

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[1] From Greek ἄλλαγμα that means "change" or "changing".

corresponds to this existence of relations that are born when the preindividual being individuates itself; it expresses individuation and allows it to be thought; it is therefore a notion that is both metaphysical and logical. (Simondon, 2005a: 32; 2009: 11)

According to Simondon's perspective, *transduction* is thus a process that occurs not only in the chemical or physical operations, but also in the biological, psychic and social dimensions, driving the *individuation* process through the propagation of *information*.

This expanded meaning of *transduction* is of great interest to approach the role of technology and individuation processes in sound practices and studies. If we are used, in theses fields, to a very specific definition of *transduction* as the process of energy transmission/conversion between different forms of energy (especially regarding the electroacoustic transduction), Simondon's perspective reconsiders these processes as not distinct of others that are at stake when we are creating, listening or interacting with sounds. The very recognition of individual *sound objects* can be related to a *transduction* process that takes place not only during the mechanism of recording/reproduction, but also in the perceptual and psychological process that enables us to identify, analyze and manipulate these individuated sounds.

4   Technical individuation

Given that *individuation*, as well as *transduction*, are processes that can be investigated in these multiple dimensions (physical, chemical, biological, psychologycal, social, etc.), they are also suited to be applied in the fields of sound studies and practices as a way to understand how we identify and qualify *sound objects*. Furthermore, Simdondon's thought is particularly suggestive regarding the application of technical concepts, images and words for developing a theoretical perspective on ontogenesis and individuation.

It is relevant, in this sense, that he starts his thesis on *individuation* refusing the *hylomorphic* schema not because it departs from a certain technological schema – which, in principle, could explain how objects like the brick and the statue are created. But rather because this model is highly abstract and distant from the real technological mediation. It ignores the handicraft knowledge and work that results in real individual objects.

> The technological character of the origin of a model does not invalidate this model, with the condition that the operation which is used as a basis for the formation of the utilized concepts passes entirely and expresses itself without deterioration in the abstract model. If, on the contrary, the abstraction is carried out in an unfaithful and summary manner, by masking one of the fundamental dynamisms of the technical operation, the model is false. Instead of having a true paradigmatic value, it is nothing more than a comparison, a more or less rigorous juxtaposition according to the cases.
> However, in the technical operation which gives rise to an object having form and matter, like a clay brick, the real dynamism of the operation is extremely far from being able to be represented by the matter-form couple. (Simondon, 2005a: 39–40; 2007a)

Taking the brick production as an example, Simondon argues that both the mold and the clay cannot be reduced to the hylomorphic scheme. Both have properties that are carefully developed in their own technological production and whose so to speak *formal* and *material* functions are of fundamental importance to the brick individuation through

manufacture. The final brick is not, nevertheless, the union of *formal* and *material* dimensions. It is the *mediation* between two different technical elements: clay and mold. These two elements, as well as the energy that the artisan transfers to the clay, inform each part of the individual from different *orders of magnitude*.

What distinguishes Simondon's view on the *technical individuation* from the static *hylomorphic* scheme is that, even in the case of an apparently still object as the brick, the process of individuation that underlies its manufacture is *dynamical*. That is why it cannot be completely rendered by the motionless image of the *hylomorphic* combination of matter and form. This dynamical approach makes it possible to compare, as not essentially distinct, heterogeneous technological processes, such as the *molding* of a brick and the electrical *modulation* of triodes.

> The difference between the two cases lies in the fact that, for the clay, the operation of taking form is finished in time: it tends, rather slowly (in a few seconds) towards a state of equilibrium, until the brick is taken from the mold; one uses the state of equilibrium while un-molding when it is reached. In the electron tube, one employs a support of energy (the cloud of electrons in a field) that presents a very weak inertia, so that the state of equilibrium (adequacy between the distribution of the electrons and the gradient of the electric field) is obtained in an extremely rapid time compared to the preceding (some billionths of a second in a tube of greater dimensions, some tenth of a billionth of a second in the smaller tubes).
> Under these conditions, the potential of the grid of order is used as a *variable mold*; the distribution of the support of energy according to this mold is so fast that it is carried out within the smallest minimum time for the majority of the applications: the variable mold is then used to vary in time the actualization of the potential energy of a source; one has stopped not when equilibrium is reached, one continues by modifying the mold, i.e. the grid voltage; actualization is almost instantaneous, there is no end to its release from the mold, because the circulation of the support of energy is equivalent to *a permanent release from the mold*; a modulator is a *continuous temporal mold*. (...) The mold and the modulator are extreme cases, but the essential operation of taking form is achieved there in the same way; it consists of the establishment of energy, durable or not. To mold is to modulate in a final way; to modulate is to mold in a continuous and perpetually variable way. (Simondon, 2005a: 46–47; 2007b)

By criticizing the *hylomorphic* conception that reduces technical and artistic creations to the association of passive and abstract *forms* and *materials*, Simondon refuses perspectives that underestimate or ignore the real handicraft and technical processes that are in progress when an artisan works on his workshop. Such perspective "corresponds to the knowledge of a man that remains outside the workshop and does takes into account anything except what goes in and what comes out" (Simondon, 2005a: 46). Also, he rejects the very social and intellectual perspective that segregates technological operations from the knowledge and the culture and delegate to an abstract form the power to create individuals.

> We could say that, in a civilization that divides men in two groups, those who give orders and those that execute them, the principle of individuation, according to the technological example, is necessarily attributed to either form or to matter, but never to both together. (Simondon, 2005a: 58).

5　Mechanology and the social, ethic and political dimensions of the study of technology

The critique of the *hylomorphic* perspective is, as can be seen, not just a matter of *ontogenesis*. It reflects a political, ethic and epistemological framing of reality that is related to how one understands the relations between humans, nature, machines and culture. Likewise, Simondon underlines, in the beginning of the thesis on *technical objects*, the need to recognize them as human artifacts, as much as are recognized other objects like books and works of art. From this, comes his vindication to reintroduce technical things "in the culture", surpassing misoneistic and technophobic approaches to technology.

> The opposition established between the cultural and the technical and between man and machine is wrong and has no foundation. What underlies it is mere ignorance or resentment. It uses a mask of facile humanism to blind us to a reality that is full of human striving and rich in natural forces. This reality is the world of technical objects, the mediators between man and nature.
>
> Culture behaves towards the technical object much in the same way as a man caught up in primitive xenophobia behaves towards a stranger. This kind of misoneism directed against machines does not so much represent a hatred of the new as a refusal to come to terms with an unfamiliar reality. Now, however strange this reality may be, it is still human, and a complete culture is one that enables us to discover that this stranger is indeed human. Still, the machine is a stranger to us; it is a stranger in which what is human is locked in, unrecognized, materialized and enslaved, but human nonetheless. The most powerful cause of alienation in the world of today is based on misunderstanding of the machine. (Simondon, 1989: 9–10; 1980: 11)

The theoretical question that arises is thus of acquainting the humanities with the human gestures and thoughts that are set down in the technical objects and their mechanisms. Instead of conceptualizing technology through a strictly pragmatic or fatalistic way[2], Simondon refuses both technophobic and positivistic approaches to *technology*, rejecting the broad *alienation* they imply.

This *alienation*, however, is not also just the political and economical one identified by Karl Marx between men and means of production (Marx, 1986: 60). It is a rather extensive *psychophysical alienation* in the sense that the segregation between humans and technical objects implies, first and foremost, an ignorance regarding *machines* and *technical things*. Because of this, this separation leads to their reduction to the status of pragmatic means to acquire power. In this technocratic perspective,

> the machine is just a mean; the end is the conquest of nature, the domestication of natural forces by means of an initial servitude: the machine is a slave that serves to make other slaves. (...) But it is hard to free yourself by transferring slavery to other beings, men, animals or machines; to reign over a population of machines is still to reign, and every reign supposes the acceptation of schemes of servitude (Simondon, 1989: 127)

Regarding *alienation*...

2The pragmatic dimension of tools [Zeuge] can be seen when Heidegger stresses the "wozu" (what-for) and the "um zu" (for-something) dimensions of instruments (Heidegger, 1967: 70). The *fatalistic* apprehension of modern technology, on the other hand, is the guideline of *Die Frage nach der Technik* (Heidegger, 2002).

> Man's alienation in relation to the machine has not only a social and economic sense; it has also a psychophysiological one; the machine does not extend anymore the body scheme, neither for the workers, nor for those that possess the machines. The bankers whose social role was exalted by the Saint-Simonian mathematicians and Auguste Comte are as alienated in relation to the machines as the members of the new proletariat. (Simondon, 1989: 118)

> But it is true that the economical conditions amplify and establish this alienation: the technical object does not belong to the men that use them in the industrial life. The relation of propriety is, although, too abstract, and it would not suffice that workers become the owners of machines to reduce abruptly the alienation; to possess a machine is not to know it. (...) We would need to discover a social and economic mode in which, the individual that uses the technical object would not only be the owner of this machine, but also the man that chooses and nurtures it. (Simondon, 1989: 251–252)

While the first part of *Du Mode d'existence of technical objects* exposes the general simondonian conceptions regarding the specificity of *technical elements* (i.e., infraindividual technical objects), *technical objects* and *technical ensembles*, the second part of this work – which addresses the relationship between technical objects and men – as well as the courses on *invention* (Simondon, 2005b) and *perception* (Simondon, 2006) expose ideas that are of interest to the approximation of this philosophical framework to contemporary sound studies and practices. There, Simondon develops the theoretical conception of the machine as a dynamical and interactive repository where the human thought, memory and gestures are translated and registered in the serial memory of the gears or mechanical processes that can be actualized when the technical object is set in motion.

This global point of view leads Simondon to propose *mechanology* as a science that, in parallel to the study of single technical elements (namely, *technology*), would be directed to the study of the *inidividual technical objects*.

> Infra-individual technical objects can be called technical elements. They differ from true individuals in the sense that they have no associated milieu. They can be integrated into an individual. A hot-cathode tube is more a technical element than a complete technical individual. It can be compared to an organ in a living body. In this sense it would be possible to define a new science of general organology. This science would involve the study of technical objects at the level of the element. It would be part of the science of technology, including mechanology, whose subject of study would be complete technical individuals. (Simondon, 1989: 64–65; 1980: 56)

6   Human-machine coupling

The relationship between humans and machines consists, basically, of a *coupling* relation. If this interaction is characterized by a gestural and physical *coupling* that takes place when humans use tools such as shovels and levers, for instance, there is also a *cognitive* or *psychological* dimension in this relation: namely, *coupling of memories*.

"Machines could not store *shapes*, but only their *codification* in *series* – such as the gears' teeth, the bits in a digital computer or, in the analogical surfaces, in the magnetization

variation along an electroacoustic tape or in the groove curves of a vinyl disk" (Velloso, 2013: 125). Humans, on the other hand, are able to retain the overall *shape* in memory but are not as apt, as machines, to store a large number of data in a given series.

The coupling between these two kinds of memories (and the related physical and gestural operations related to them) depends, thus, on a sort of common coding. The "good" coupling between these two different *memories* happens "from the moment in which it is possible to realize a partial convertibility between them, so that a synergy becomes possible. (...). There is coupling when a single and complete function is fulfilled by the two beings" (Simondon, 1989: 124). Alienation happens when this function is compromised somehow. Not only when it is interrupted or unachievable given specific or contingent circumstances, but also when it is disturbed in some way: when the technical interaction of human beings does not imply a meaningful translation, to them, of the gestures, thoughts and procedures that are registered and encoded in the machine mechanisms.

It is self-evident that, from the moment in which the coupling between humans and machines presupposes a complex process of translation between what it is encoded in the mechanisms of technical objects to the human memory, the process of human-machine *coupling* depends not only in the meaningful fulfillment of a "single and complete function", but also imposes further challenges to this process. In concrete terms: between human being and the technical operation, is established a longer chain of technical mediation that interposes the translation between these two *memories*. It demands, therefore, an increasingly effort on the comprehension of the technical elements and mechanisms that are involved. If such a task is almost utopic in what concerns the *coupling* with most of the technical objects of our time (whose technical mechanisms are so specific that even single engineers may not know all of the processes that are at stake), this relationship can be approached in different levels to attempt to establish the relationship between humans and machines that Simondon advocates.

It is of special relevance to think about activities, such as those that we are used to undertake in sound practices and studies, that imply human-machine interactions in processes such as *creation* and *invention*. According to this perspective, to be able to establish a meaningful *coupling* with machines in contexts that imply *creation/invention* is to be able to "make your mind operate as could also work a machine".

> The machine is a deposited human gesture, fixed, transformed into stereotype and power of resumption. (...) Between the man that invents and the machine that operates there is a relationship of isodynamism, more fundamental than the one that Form psychologists had imagined to explain perception by naming it isomorphism. The relationship of analogy between machine and man is not at the level of the corporal operations; (...) the real analogous relationship is between man's mental operations and the physical operations of the machine. These two operations [*fonctionnements*] are parallel not in ordinary life, but in invention. To invent is to make your mind operate as could also work a machine, not according to causalities, too fragmentary, nor in accordance to the end, too unitary, but in accordance to the dynamism of an operation that was lived, captured, because it was produced, accompanied in its genesis. The machine is a functioning being. Its mechanisms concretize a coherent dynamism that once existed in thought. Thought's dynamism, while the invention occurred, was converted in functioning forms. Conversely, the machine, while it operates, produces or goes through a number of variations around the fundamental rhythms of its operation as they result from its defined forms. It is those

variations which are meaningful, and they are meaningful with respect to the archetype of operation that is thought in the process of invention. One has to have invented or reinvented the machine so that the operation variations of the machine become information. (Simondon, 1989: 138–139)

The operation that one tackles while interacting with a machine involves, in an optimal *coupling* between human and the technical object, the ability to recognize, decode and interpret the human gestures and thoughts that were captured and recorded in its operating mechanisms in the moment of invention. To invent, on other hand, consists in being able to formulate the isodynamic analogy that enables the inventor to inscribe in gears, programs or any kind of dynamical technical process, his thoughts and gestures. Finally, to operate or use a machine is, ideally, to understand how the inputs gestures that control their mechanism make the whole engine to behave and modulate the actions of the human-technical couple.

7   Technical methods – instruments/tools – apparels/utensils – machine-tools/machines – networks

While the ideas presented in these two books, roughly summarized above, allow us to glimpse a potential impact of Simondon thought in practices and studies that entail the constant interaction of human beings and technical objects to operate with sounds through processes such as *transduction*, *individuation* and *modulation*, it is relevant to present briefly a further categorization that Simondon undertook to understand the specific particularities of certain types of technical operations with specific *technical objects*.

In the 1968 course *L'Invention et le devéloppement des techniques* (2005b), Simondon categorizes five different technical stages to understand *technology* and *technical objects* and their relation to human activities. This categorization sheds light on the particularities of: (1) the *technical method*; (2) the *tool* and the *instrument*; (3) the *apparel* and the *utensil*; (4) the *machine-tool* and the *machine*; (5) and the *network*. The differentiation between these stages is not only interesting for us with regard an anthropological theory of technological development. It is mainly relevant because it makes it possible to think about specific technological operations and objects and the overall characteristics that are implied while we use certain tools, instruments and other technical objects while dealing with sounds and music.

The first technical stage, comprised by the *technical method*, is characterized by Simondon as the pre-instrumental technique. Its main particularity is that, lacking tools, instruments and technical objects to accomplish a given task, the *technical method* relies on its massive, synchronic and fractionalized execution. This process occurs in the human work (as in the primitive techniques of construction and material transportation) as well as in the animals (as in the coordination of individual activities of bees and termites). (Simondon, 2005b: 87)

The second technical stage replaces the synchronic, fractionalized and massive unmediated execution of the task by the more individualized and mediated work with tools and instruments. At this point, Simondon makes a conceptual distinction between *tools*

and *instruments*: while *tools* are prosthetic regarding the *actuation* of the living being in the world, *instruments* main function is to mediate our *sense* organs.

Both *tools* and *instruments*, have three main functions: *extension*, *transformation* and *isolation*. Drumsticks, violin bow and steel guitar plectrum are examples of *tools* that undertake those functions in the actuation through musical instruments (which, accordingly to this terminology, we maybe should call also *tools*). On the other hand, the microphone, the noise cancelling headphone and the protection earplugs are examples of *instruments* that *extend*, *transform* and *isolate* our auditory senses in specific situations.

Of course, this categorization is schematic and does not pretend to individualize *functions* or segregate *instruments* and *tools* as necessarily distinct technical objects. A single *tool* or *instrument* usually performs multiple functions, *extending*, *transforming* and *isolating* our interaction with the world. Likewise, usually *technical objects* act both as *instruments* and as *tools*. This integration of functions can be easily illustrated by a walking stick that, as a *tool*, extends our hands and arms to "reach" the floor and support the body and, at same time, is used to extend, transform and isolate the *sense* of touch, allowing one to *feel* the floor characteristics through it.

The third technical stage is qualified by the introduction of *apparels* and *utensils*. They unveil the coupling of *tools* and *instruments* to a mechanic nucleus that modulates the relationship between inputs and outputs.

> The second technical revolution is the detachment of the technical object from the operator's organism: the instrument serves as input to the apparel; the tool serves as output; the apparel is thus the central point, the mediator of this coaptation between an instrument and a tool through a source of energy that makes the machine.
> One could say, therefore, that the machine is constituted by the process of individuation where the center is the utensil, plus the apparel, node of the relation, entrance of the auto-correlation and inception of the independence with regard the human organism that serves as holder and as a draft, sinc the instruments and tools that were elaborated to the operator organism can be brought to the machine at the expense of adaptive modifications; in a fractionalized fashion, the organism serves thus as a model, as an archetype, to the main sensor and actuator organs of the machine; but it takes a third reality, that of the the utensil and the apparel, to operate, apart from man, the connection between sensors and actuators. (Simondon, 2005b: 95)

This follows to the fourth stage, which consists in the *machine-tool* and the *machine*. Both the machine and the machine-tool are constructed around a "central system of correlation that may be a *modulable* source of energy or a device as a gear". In either case, they have their own source of energy to work and to correlate sensors and actuators. If the *machine-tool* still requires to be operated by humans, they tend to be more and more autonomous in regard to human gestures and operation. As *modulators* of human gestures, these objects require a very feeble "source of input (control) to govern the work transformation (on actuators) from the energy borrowed from an external source (animals, water flow, wind, combustion)" (Simondon, 2005b: 97). The *machine* takes this particularity to the extreme and it is so autonomous regarding the human operator that he assumes the role of an observer or sentinel that guards and maintains the machine.

The last stage corresponds to the technical networks, in which each machine is an autonomous center that intercommunicates with each other through receptors and actuators. "The basic characteristic of the network is the virtual presence of all the central organism possibilities in every terminal, in emission as in reception" (Simondon, 2005a: 100)

8 Towards a *solfège* of technical objects

Simondon work leads us to reconsider the technology mediation in sound practices and studies. While large part of the theoretical enterprises on these practices have addressed the activities that are inscribed in the term *solfège* – concentrating their efforts on understanding our relationship with *sound* "itself" (covering, evidently, how we perceive and listen qualitatively to them) – it must be acknowledged that processes that rely on a complex chain of technical mediations and *couplings* with our bodies and minds demand, on their part, their own consideration, interpretation and refinement both in practical and theoretical contexts. While the knowledge, concepts, techniques and ideas acquired from the study of psychoacoustics, *phenomenology* and related fields have been extensively applied in our artistic and conceptual repertory to deal with sounds, it seems that we still take the technology mediation as something that does not deserve a meaningful account from the humanistic/creative perspective to better understand these practices. When we state the importance of technical objects and processes to the discovery of new potentialities in sound practices, it seems that either we soon relegate them to an adjunct role or, conversely, we roughly take them as dissociated engineering study subjects. In other words, either we tend to disdain their *technical* interpretation in creative, theoretical and practical applications or, from a stereotyped technocratic perspective, to ignore the other side of the technical mediation – namely, the human bodies, minds, hears and activities whose coupling with these technologies give their conjunct meaning in artistic or reflection processes.

This text does not aim to establish some sort of theoretical program neither could present a methodological framework to be applied to accomplish the interpretation, invention and reinvention of techniques and technical objects in the immense number and variety of contemporary sound practices. Nevertheless, the simondonian framework present us worthwhile ideas and an equally valuable ethical perspective with regard to the auditory and creative activities that imply the use of technical means as well as those that presuppose their invention and adaptation to new enterprises.

If a set of theories and concepts concerning *solfège* as a listening process have enriched how we think about sound and the sound-related creative, analytical and theoretical dimensions, it is possible, therefore, to postulate a *solfège* that not only happens *through* technical beings, but that also has these very technical beings as object. This not implies in ignoring sounds or relegating them to a second plane, but rather to bear in mind their technological dimension. The *sound object*, the *spectromorphological* analyzed sound or even the ephemeral "real-time" sound produced in interactive contexts are the sounding trails our sounding individualizations of technological processes, tools, instruments, machines and mediations. These technical resources, in turn, involve the historical acquisition and accumulation of stereotyped gestures and thoughts and, we may add, of

modes of listening and of *making sounds*. In schaefferian terms, they embody *themes* and *versions*.

Thus, despite any theoretical justification, schaefferian concepts and practices such as *reduced listening* and *acousmatic music* are likely to rely more on the ancient *circular* movement of the gramophone, on the corresponding form of the disc recording – which, according to Adorno (1990: 59) can be traced back to the automated organs – and on the latent technical possibility to "freeze" the sound in *loops* by means of the manipulation of *technical objects* – like the lathe, the turntable and disc creating locked grooves – than on the Husserl concept of *epoché*. This is not to say that these and other concepts (such as those that Schaeffer borrows from the linguistics, for instance) are not important to his theory and interpretation of sound practices. Rather, they are valuable tools that he found to try to understand the new sounding phenomena that he was only able to listen, contemplate and manipulate from the moment in which his human senses and acting organs could be prosthetically extended to enable him to listen and to handle them as he did.

Today, with computational technologies that almost unthinkable even when Simondon and Schaeffer wrote about technology, few decades ago, it is possible to reconsider, once again, the *solfège* – this outdated term that, nevertheless, still today is able to conceptually gather different practices and activities related to our relationship with sounds, music and the very cognitive processes they involve. For instance, we watch today the ordinary application of technologies that operate massively on the numeric translation of recorded sounds in the serial memory of a network of machines. They undergo the automatic recognition of features through *music information retrieval* and *machine listening* techniques. This data is analyzed by using complex tools such as *machine learning* and *cloud computing strategies* to accomplish heterogeneous tasks: suggesting songs in our smartphones, recognize and locate screams or shots in our urban soundscapes and to structure complex surveillance systems that invisibly monitor the sounds we produce and listen.

In this context, the *solfège* of the technical objects – i.e., the wide range of processes that encompass understanding and interpreting thoughts and gestures set down in technical objects and their coupling in our sound related activities such as listening, performing, creating, etc. – may have not only theoretical and artistic reverberations on how we deal with sounds. It also could have political and ethical consequences for practices that refuse, borrowing Simondon's expression, "any scheme of servitude".

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22. Urban Sound Design projects in Colombia. Exploring portability and the passerby sonic interaction.

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Abstract. The design of sonic interfaces intended to the urban environment has been showing new conceptual directions and creative forms. While recent computer music literature reports powerful and easy-to-use locative media resources, some urban designers have proposed a theoretical basis for the urban listening experience. Moreover, some interaction design studies have been examining sound as the link between the user and his/her context. These resources have served as motivations to undertake interface design projects exploring portability and sonic user-interaction in the local urban territory. This paper will discuss three mobile sound design projects developed under a postdoctoral research carried out in the Design and Creation Program at Caldas University, in Manizales Colombia. The Smartphone Ensemble (2015), the AirQ Jacket (2016) and Lumina Nocte (2016) propose portable audio interfaces that seek to empower the local passerby with tools to explore the urban environment. After the projects have been introduced, I will discuss the creative processes around specific topics: the design methodology, the technological implementation and the sound design practice.

Keywords: audio portability, mobile media, locative media, sonification

1 Introduction

In The practice of everyday life Michel DeCerteau warned about the opposition between a city view from "up there" that is totalizing and allows "seeing the whole", and another view from "down below" where live "the ordinary practitioners of the city" (Certeau, 1984: 93). Likewise, It could think that the urban environment is twofold. It has a physical layer and an electronic one. According to Lemus, the urban spaces have "informational territories", "zones of control of emission and reception of digital information for individuals who are circulating in the public space..." (Lemos, 2007: 129). In this paper, I will discourse about how new technologies are transforming the urban experience by creating a virtual image of the city. In particular, portable audio devices extend the incoming auditory data flow. They connect users with an informational layer of the territory: the sonic dataset about the city that is complementary with the physical space.

In the first section I will argue that portable sound interfaces have become exploratory tools in the negotiation between the physical and informational layer of the city. It will be taken into account historical, social and technological aspects of audio portability. A set of theoretical and artistic works developed in the field of Sonology will be briefly discussed. In the second section I will review three the design projects that I have been developed with members of the University of Caldas Design and Creation program. The Smartphone Ensemble (2015), the AirQ Jacket (2016) and Lumina Nocte (2016) propose sonic interfaces that seek to empower the local

passerby with tools to explore the urban environment. The challenges, principles and conceptual directions of each project will be raised.

I will discuss common methodological, technical and disciplinary aspects of the previously presented projects in the third section. Although the creation of interactive audio systems over portable platforms drives to particular design decisions for the interaction, the interface and the material, I will confront and contrast the three creative processes in order to discuss procedures, techniques, tools and our interpretation of some sound design definitions. The last section will briefly discuss current technical activities of our urban sound design laboratory.

2   Audio interfaces and the urban experience

It is almost a commonplace to assert that the ubiquity of speaker systems gave rise to a new social role to sound. After World War II, sound media opened up a place in modern everyday life [Taylor, 2001: 72) and today they became essential commodities. Within this complex cultural phenomenon, I would like to draw attention to the early advent of portability as a regular feature in audio devices. It was in the 1950s and 1960s that transistors, magnetic recorders and electro-chemical cells established a technological convergence for a generation of audio gadgets: the walkie-talki, the transistor radio, the megaphone, the portable audio recorder, the walkman, and then, the ipod and the smartphone. I wonder how audio portability transformed ways of perceiving, inhabiting and traveling around the city, particularly, I would like to reflect on the role of portable audio devices and interfaces in the transactions between the passer-by and his/her urban environment.

With regard to the exploration of the urban space, the interfaces that implement sound recording and playingback capabilities have been extensively adopted. Sound recording media provide a valuable document about the city. In this respect, It is worth mentioning that the opposition between direct listening where the sound source is present, and indirect listening where electroacoustic media are mediating, drove to the Pierre Schaeffer`s emblematic concept of Acousmatics (Schaeffer, 2003: 47). That concept inspired composers to create phonographic versions of the urban environment in the form of electroacoustic pieces (Ferrari, 1970). Furthermore, in his study about the soundscape, Murray Schafer developed the concept of schizophonic listening to illustrate the need to split the sound from its origin, such as a consequence of the advent of sound recording technology (Schafer, 2013: 133). In another work (Arango, 2015) I have suggested that the portable recording media foster a sort of schizo-topic listening because they encourage the pedestrians to detach the spatial urban experience from a verifiable phonographic document. That is precisely what, from my point of view, the soundwalks can do better than other recording sound practices. They take advantage of portability to capture not just the soundscape, but also the subjective listening experience. The soundwalks are didactic exercises, tours with a defined path where the goal is listening and recording the sounding environment in order to later compare the experience with the phonogram (Westerkamp, 2007: 49). In contrast to other field recording practices where the microphone remains static, the soundwalk recordings provide a description of the acoustic environment that is inseparable from the listening subject. In their series "Walks" Janet Cardiff and Georges

Bures Miller (Cardiff&Miller, 2012) have taken advantage of the liveness and the performativity that portability can provide to recording media in order to create fictional narratives of the urban environment.

Another creative form that has been showing directions in the design of audio interfaces is sound mapping. The rise of online communities (Arango, 2014: 66) has favored the creation of platforms where people can access and sometimes share field recordings arranged on interactive maps of the cities. Although there are some remarkable experimental proposals (Stanza, 2002), (Locus Sonus, 2007), the soundmaps have been dedicated to create an information layer of the urban territory, composed by phonograms suggesting a correspondence with the physical space. In the particular case of Colombian cities, the soundmaps have been focused on preserve the immaterial heritage, in this case, the acoustic one. They have recently launched some soundmaps dedicated to observe the acoustic changes undergone in the implementation of a public transportation system (Llorca&Franco, 2008), the evolution of the graphic industries in Cali (Llorca&Cuellar, 2013) and the spontaneous street vendors in the downtown of Medellin (Carabalí&Durand, 2015).

However, the urban listening experience has been also examined from the outside of electroacoustic media studies. In their study, Augoyard and Torge (Augoyard&Torge, 2005: 21) adopt the concept of sonic effect in order to restore a conceptual framework of the urban listening experience. From these urban studies point of view, listening is a complex phenomenon that cannot be explained just from the Schaeffer`s sound object and Schafer`s soundscape theories. The whole picture of the urban listening analysis should take into consideration other fields of reference, such as physical and applied acoustics, architecture and urbanism, psychology and physiology of perception, sociology and everyday culture as well as textual and media expressions. In the same direction, Hellstrom suggests that since it is not possible to embrace all these various disciplines, the sound designer "… operates within her/his own specialized knowledge field; thus sound design presupposes a disciplinary context and demands an approach to knowledge that emanates from a certain discipline" (Hellstrom, 2003: 36).

Today devices equipped with long-term rechargeable batteries, Internet connection through 4g, WiFi and Bluetooth, GPS geo-referencing tools, sensors and touchscreens produce a new technological convergence for the design of portable audio devices and interfaces, whose prime representative is the smartphone. Musicians, artists and designers have been explored the digital convergence around portability in a new repertoire of locative media projects. Pioneer pieces such as Golan Levin's Dialtones –A Telesymphony- (Levin, 2001) or Radio Concert for 144 mobile phones (Rohm&Ligna, 2003) by german collective Ligna and composer Jens Rohm took advantage of basic audio features embedded in early mobile phone models (ringtones, alarms, notification sounds, radio) to create interactive musical experiences. Other artistic oriented-projects such as NetDérive by Petra Gemeinboeck and Atau Tanaka (Gemeinboeck&Tanaka, 2006) or game-oriented apps such as Zumbies, Run or Oterp use smartphones context-awareness properties to create musical compositions and sonic fictional narratives related to the urban experience.

3 Design and Creation of urban audio Interfaces

The projects reported in this section have been created under a two-years postdoctoral research study entitled Sound Design for Urban Spaces. The research focuses on the design process of novel audio devices exploring mobility, portability and location-aware resources, in order to enhance local passerby listening experience. The study is held by Caldas University of Caldas Design and Creation program, in Manizales (Colombia). In the "Laboratorio de Sonologia" we have conformed a group of designers, musicians and engineers with whom I have been developing design projects around a set of questions raised in the study, such as: ¿What is the role sound in the human occupation of urban spaces? ¿How does sound act in the two-way link between the city passer and his/her mobile computer?

3.1 The Smartphone Ensemble (2015)

The Smartphone Ensemble (SE) is a Manizales based group of musicians and designers leaded by Daniel Melán Giraldo and Julián Jaramillo Arango, exploring musical expressivity of mobile phones in urban contexts. Smartphones portability is taken as an opportunity to envision alternatives to the standard performance space, supporting the idea of a musical ensemble of non-traditional musical devices that travels while playing. SE public presentations intend to be urban interventions, not traditional concerts. In this regard, SE improvisation based performances are structured according to short and defined tours around a specific public place in Manizales (the university campus, a neighborhood, a park, a building, a shopping mall, a market). In this spirit, atypical places can become a suitable performance space for SE musical interventions.

Fig. 1. The Smartphone Ensemble performing an improvisation piece around the Gotera Park in Manizales, Colombia.

Since additional amplification is required in (noisy) urban environments, we designed a wearable speaker system for SE outdoor interventions and rehearsals. The members wear a speaker band in each arm in order to handle stereo parameterization. The first SE performance was carried out in the Manizales Gotera park on November, 2015 within the

"electronic picnic", a regular event organized by governmental institutions Vivelab and Clusterlab. A reduced version of the ensemble with only four smartphone players made the performance. The group walked through the park following a trajectory while improvising over four different musical ideas. Along the intervention some curious spectators approached to SE members asking for available versions of the musical instrument apps in order to join the smartphone parade. It strongly suggests that we may include the audience as an active participant in future events.

3.2 The AirQ Jacket (2016)

The AirQ Jacket is a wearable device that displays temperature and air quality data through light and sound. The jacket reacts to environmental conditions and notifies them to its user in a symbolic mode. While an active volcanic region emanating toxic gases surrounds Manizales, air quality becomes an important issue in the city everyday life. In this respect, the project aim to create a meaningful context for the passerby in the interpretation of scientific data about the city. The AirQ jacket is the MA degree project of fashion designer Maria Paulina Gutierrez.

The AirQ Jacket invites the passerby to interact with the environment in a feedback loop mode. This criterion came from Sonic Interaction Design theories by Rocchesso et al (Rocchesso et al, 2008: 3969). They propose that in sonic interaction phenomena, humans get into a feedback loop, where user actions govern the sound, and reciprocally, when the user listens to this sound, new decisions are demanded to take more actions. Moreover, they suggest that, although this interaction model comes from musical performance, it can be fruitfully used to complete non-musical tasks.

Fig. 2. The first prototype of the AirQ Jacket, a wearable computing design project developed in the Universidad de Caldas, Design and Creation Program.

The AirQ jacket creation process also looked into the field of perceptualization (Barras&Vickers, 2011: 153), in this case, the mapping of scientific data to visual and auditory stimuli. On the one hand, temperature and air quality data are visualized by two arrays of colored leds attached to the upper and lower sides of the jacket. The circuit maps the information in a traditional symbolic way: blue-to-red to show temperature in the upper side, and green-to-red to show pollution in the lower side. On the other, the sonification system runs in a custom-made artifact attached to the jacket that was built with a piezo-electric device located inside a plastic cabinet that totally kills the sound, unless you approach the ear, such as telephonic equipment. Our sonification strategy demands an exploratory analysis process from the user and adopts a "reference" or contextual sound (Walker&Ness, 2011: 26).The user hears a couple of regular metronomic ticks. The first-one displays the temperature data changing the pitch and lets hear the pollution data changing the velocity. The second tick acts as a grid of reference, it represents "normal" state. When the user compares the two ticks he/she can appreciate the environmental conditions.

3.3 Lumina Nocte (2016)

Lumina Nocte is a suggested trajectory by the Caldas University Campus guided by a smartphone application that triggers audio samples when the pedestrian reaches some

GPS coordinates. More than an audio-guide, Lumina Nocte tells a horror story. Nine audio samples recreate old uses of the University buildings where a group of Catholic Church sisters directed a residential school for girls. The fictional narrative simulates terrific scenes the buildings might have witnessed. The work was developed during a seminar focused on interactive design, with students Vanessa Gañán, Hellen Zamudio y Carlos Zuluaga. Lumina Nocte deals with the perception of memory via the auditory channel, exploring sound as a link between affective activity and the urban structures. On this subject Augoyard and Torge (Augoyard&Torge, 2005: 21) provided an analysis with several nuances and shades about the psychological proprieties of sound. They propose sound effects we have explored, such as anamnesis, phonomnesis, asyndeton, synecdoche and perdition.

Fig. 3. The pathway of Lumina Nocte over the map of the Caldas University Campus.

Frauke Behrendt have discussed the design technique of associating samples or audio processes to GPS coordinates (Behrendt, 2015: 5). While recognizing several examples with multiple directions where geo-referenced audio has been used, she relates the practice of "placing sounds" to an Augmented Reality (AR) acoustic modality. The Lumina Nocte audience can only access the content when they are physically present in the geographic location, thereby walking becomes a mode of interaction, a sort of remixing. As Behrendt quotes, each passerby had his/her own listening experience depending on the decisions he/she makes in terms of direction, length of the walk, and time spent in specific locations (Behrendt, 2015: 17).

4 Discussion

The creation of portable audio interfaces has been raised some conceptual insights that I will discuss in this section separately in three topics. I will address some methodological directions from design studies we followed in the processes reporting the original sources, the phases of our procedure and its implementation. Later I describe how we implement a set of alternative technologies in a context of designers and musicians. The last topic is sound design practice that will be examined from the perspective of the authors that have been previously discussed.

4.1 Methodology

Methodology is an important contribution from Design Thinking (DT) to computer music and instrument building practices. In the academic context where the interfaces were created, following a defined methodology has been helpful to organize the creative process, allowing us to complete the projects in limited periods of time and capitalize the laboratory practices. While research methodology literature is relatively abundant in contemporary design studies, we have adopted two main resources from DT. On the one hand, we used the three-phase systematic design method (analysis-synthesis-evaluation) provided by Christopher Jones (Jones, 1984: 9), where each of the prefigured phases determines a defined task. On the other, we included some insights from the Alain Findeli`s project-based methodology, where the research process is leaded by a design project (Findeli, 2008: 67).

As a result of the interpretation of these two theories we created a particular four-phase methodology that was wholly accomplished by the smartphone ensemble and is being adopted in the AirQ Jacket project. In the case of Lumina Nocte some conceptual and technical resources corresponding the initial phases were previously given in order to develop the project in a shorter period of time. While the program members were not familiar with sound design topics, I decided to include a previous phase to the original Jones scheme denominated "information and research". It is focused on the collecting of a set of related works. Moreover, the synthesis phase was completely redefined in order to test multiple portable audio solutions, which meant a complete immersion in technical aspects and laboratory activities. Thus, our methodology consisted of four phases: (1) information and research, where relevant data were gathered, (2) analysis, where user needs were observed and identified, (3) synthesis or laboratory, in which the solutions were proposed and (4) evaluation, where proposals were valued. Theoretically, these four stages should overlap themselves and create a whole process that is expected to be cyclic, since the evaluation phase may be able to provide substantial incomes to make improvements in phases 2 and 3.

In the current development of the projects, the three initial phases could be successfully accomplished. The projects found relevant references (phase 1) that allow narrowing the problem down (phase 2) and conducting experiments with portable audio resources (4). However, the innovative and experimental character of the projects leaves many questions unanswered respecting the evaluation phase. One of the difficulties we encountered is that many human-computer-interaction (HCI) evaluation methods are devoted to measure system performance and user satisfaction in graphical interfaces. Although evaluation is a growing topic in New-Interfaces-for-Musical-Expression (NIME) design, it is also true that multiple directions are simultaneously being taken (Barbosa et al, 2015: 156), thus we could not find a theoretical scenario with clear and shared rules to evaluate our portable audio interfaces. The way we face the evaluation of the smartphone applications with the ensemble was by returning to the analysis phase, where the concept of musical expressivity was addressed, delimited and simplified. Then we decided not to measure device performance or user satisfaction, but musical expressivity in smartphone devices. It was defined as the index of precision degree, action-response correspondence and visual feedback quality. There is no space here to discuss the particular results of our survey, but

in the report (Arango&Melan, 2016: 63), it can be found an attempt to measure musical expressivity on different smartphone input methods such as the tilt sensors, the multi touch display and the microphone.

4.2 Technological implementation

The synthesis phase of our methodology was focused on performing experiments with portable audio resources. It was an opportunity to engage new computer music practitioners coming from design studies. Accordingly, one important challenge in the technological implementation was finding available tools with which designers and musicians, with little experience in audio programming and electronic prototyping, could create portable applications. Since each one of the above-mentioned projects had its "problem" sufficiently bounded, the laboratory phase focused on three directions: the programming of virtual musical instruments on smartphones, the sonification of environmental sensor data and the association of sound samples to GPS coordinates. Technical training on Pure Data and Arduino has been a periodical activity in the creative processes. It has helped the students to get into the possibilities and limitations of portable technology and has allowed them to create functional prototypes for the urban space. University campus has been the test-field where the experiments, rehearsals and tests have taken place and where we have tried with different musical ideas, improvisation criteria, app sketches, collaborative setups, choreographic dispositions and walking trajectories.

With the SE we have create virtual musical instruments using libPd library (Brinkman et al, 2011), that allows sketching audio applications in the Pure Data Vanilla distribution and retrieving sensor data from the smartphone. We have designed custom-made apps implementing FM, wavetable and waveshape synthesis, bandpass filters and arpeggiators among other methods. The GUI device of the instruments was created with Daniel Iglesia's MobMuPlat (Iglesia, 2013) that provides a series of standard input methods. We have also implemented Landini protocol (Narveson&Trueman, 2013: 309) to build interconnected setups among SE performers. Since other systems and procedures allow similar results (Bryan et al, 2010: 147) Pure Data and MobMuPlat ease of use was useful in the SE environment of musicians and designers.

With Pure Data and MobMuPlat were also made some sketches of an application that could link audio content to GPS coordinates. The initial idea was an electroacoustic composition that advanced according to a walking trajectory. Although a set of tests was relatively successful, the seminar in which Lumina Nocte was conceived was too short to implement Pure Data. Then we found the Sonic Maps application (Pecino&Climent, 2013: 315) with which we efficiently solved the task needed to complete the project. Sonic Maps app allows the user to link sound samples to zones in a map and later hear them in the physical territory. The app invites the user to create his/her own experience by uploading original sound samples to a public audio server.

For its part, Air Q Jacket adopted a completely different approach. As well as other wearable technology pieces, the AirQ Jacket gathered crafting from programing and electronic prototyping on the one hand, and from sewing and dressmaking on the other. In this respect the interchange between audio and fashion design approaches leaded to a

non-standard format: a wearable computer-jacket. The circuit uses the Arduino microcontroller (pro version), an MQ-135 air quality sensor, a DHT-11 temperature sensor, four arrays of leds and a piezo-electric device. As it was described, the arduino code connects the sensor inputs to an array of dimming leds, and to the rate and tone of a couple of loops that drive the piezo-electric device. Because of the weight and comfort, the pattern making process was carried out taken into account the distribution of the circuit components on different parts of the jacket: the Arduino microcontroller behind the neck, the battery in a back-pocket, the piezo-electric hanging by the right shoulder and the arrays of leds in the front. We attached the circuit components and cables in a way that they can be completely extracted in order to the jacket can be washable.

4.3 The Sound Design Practice

In this section I will discuss sound design definitions, contrasting recent insights from design theory with our projects. As I understand the portable audio interfaces we have developed in the laboratory belong to a more general practice of sound design. Accordingly, I will gather some ideas on this respect from authors that have been previously reviewed on this paper. While sound design is an emergent practice, there is not a shared consensus about its boundaries and limits. However, the fertile debate that is being carried out around that topic helps us to characterize the design practice we have embarked.

As it was mentioned before, from the urban design perspective Augoyard suggests that there are multiple fields of reference that support sound design. However, in the same spirit, Hellstrom claims for the need of a disciplinary context for the emergence of sound design, according to this author "… the sound designer needs a disciplinary prefix in order to specify her/his disciplinary abode: industrial sound designer, architectural sound designer etc" (Hellstrom, 2003: 36). While the local passer-by is the main recipient or end-user of our research, I would say that "urban" is the prefix that firstly comes to mind when I look for an associated context. The prefix "portable", instead, outlines a mode of interaction that takes place "down below" (Certeau,1984: 93), where sound acts as a direct link between the user and his/her environment.

On this basis, we can also consider the definition of Rochesso et al, since they define Sonic Interaction Design as the "… practice and inquiry into any of various roles that sound may play in the interaction loop between users and artifacts, services, or environments" (Rocchesso et al, 2008: 3969). This proposition settles closer to our idea that portable audio interfaces connects the passerby with "informational territories" (Lemos, 2007: 129) allowing him to explore the urban physical space with a sonic road map. In addition to the previously commented definition, I would suggest that the designer could be able to create a correspondence between the virtual and physical layer of the city.

Finally, I would like to discuss Frauke Behrendt`s classification of mobile sound. The study proposes a framework with four different directions where the above-described projects can be located: musical instruments, sonified mobility, sound platforms and placed sound. The app prototypes developed for the Smarphone Ensemble would belong to the Behrendt musical instruments category. Since the mobile phone were not designed with a specific

musical purpose, play an instrument with it could be considered a kind of "mis"-use; even more when the musical performance is being carried out in the public space. Lumina Nocte could also be considered in Behrendt taxonomy: in the placed sound category, "… artists or designers curate the distribution of sounds in (outdoor) spaces, often – but not exclusively – by using GPS" (Behrendt, 2015: 7). The AirQ Jacket could be an example of Behrendt notion of sonified mobility. This category comprises works "…where audience mobility is 'driving' or influencing the sound or music they hear while being on the move" (Behrendt, 2015: 6).

5 Future Work

Since one of the main goals in the design of portable audio interfaces is to establish a strong link between the physical space and the virtual one, in the last phase of the postdoctoral research we intend to create other devices that trigger interaction loops. Accordingly, the current activities in the "Laboratorio de Sonologia" have been oriented to two main directions: the implementation of online services and the design of collaborative audio applications. While the program members have been exposed to programing and electronic prototyping, it is expected that they continue working on this activities in a second stage of technical training. In this regard, we have been exploring other resources to be included in future projects.

On the one hand, we have been exploring different versions of the ESP-8266 Wi-Fi module. This tiny device provides a low-cost solution to prototype internet-of-things (IoT) applications. Because of its portability and availability, it can be embedded in mobile devices, accessories or wearable interfaces in order to automate Internet services connections. On the other, we have been creating multimedia and multimodal sketches on the Raspberry Pi. While the vanilla version of Pure Data, Processing and Arduino are supported on the Raspbian operating system; Raspberry Pi outlines more complex tasks for the portable computer in the creation of urban territory exploratory tools. We have tested different sound cards for the raspberry pi such as the Hi-Fi Berry and the Cirrus Logic Audio Card in order to consolidate a high-fi portable audio creation platform suitable for non-expert programmers.

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23. The Sound of ACT UP! AIDS Activism as Sound(e)scape and Sound-Escapade

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Abstract: In the midst of its narrative and reflection on the US-American Aids movement and the related self-organized structures of support, that emerged in San Francisco, the documentary film "We were here" (David Weissman, 2011) transitions radically precisely at the moment when the international direct action advocacy group AIDS Coalition to Unleash Power (ACT UP!) is introduced and visualized on the screen. This turn is not just characterized by the almost iconic representation of "carried images" (Holert 2008) and graphics, that Douglas Crimp denotes as "Demo Graphics" (1990) and Gregg Bordowitz as "Imagevirus" (2010), but also by the sudden introduction of sound emerging from the discreet cascade of piano and strings. In this talk I would like to present some initial thoughts on the unattended dimension of sound within the visual culture of early and current HIV/Aids activism and ask about the queer-affective potential of sound as well as about its unintended impediments for the mobilization of protest then and now.
Sound constitutes an escapade, a willful departure from popularized debates about the western video-art and activism of ACT UP!. By means of this departure I would like to relate transgressive gender and sexual visual politics of ACT UP! (pro adultery/promiscuity/affective relationships and contra monogamy/abstinence/identity-driven relations) to the movement's willful tones, screams and noises (Sound-Escapade), and also to the disobedience of its silences (Sound-Escape). Based on a selection of activist videos and home videos and referring to their use within current mainstream film productions, I would like to ask what role the soundscape of ACT UP! might have played during the early Aids crisis and plays for the current imagination within diverging cultures of remembrance.

Keywords: AIDS activism, soundscape, noise, sonic protest, silence, queer atonality

1 Introduction

Fight Back, Fight AIDS. Fight Back, Fight AIDS.
Healthcare is a right. Healthcare is a right!
Act UP! We´ll never be silent again.

These are some of the chants which, sitting in the quietness of *The Manuscripts and Archives Division* of the *New York Public Library,* had a huge effect on me. I was born the year when AIDS became known in the United States[1]. Being born in the remoteness of the GDR I felt like having had contact with the pain, the fear, the loss, but also the anger and despair the first time when I sat in the archive and watched AIDS activist videos. Since I did this in the realm of a research project[2] that dealt with queer vernacular media like everyday photography, scrapbooks or home videos I predominantly focused on the imagery and the visual culture of AIDS and what I would call 'AIDS activism from the bed'. Here I was interested in films like "Silverlake Life" (Tom Joslin, Peter Friedman, 1993), "Fast Trip, Long Drop" (Gregg Bordowitz, 1993) or the photography of Jürgen Baldiga and Mark Morrisroe. Nevertheless the sounds stuck to me. Especially when I watched the latest documentaries that dealt with the question of honoring and memorializing the societal impacts of AIDS activism then and now I again became aware of the significance of the auditory for the mobilization of protest and the formation of community. Or maybe I should say I became aware of how the documentaries played the sound card in order to

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[1] Studies, which have been released in October this year, ended the prejudice that HIV/AIDS was brought to the US by Patient Zero in 1981. Apparently the HI-Virus has already existed in the 1970-ies (McNeil 2016: http://www.nytimes.com/2016/10/27/health/hiv-patient-zero-genetic-analysis.html?_r=0).

[2] Research project 'Media Amateurs in Queer Cultures', funded by the German Research Foundation, at the University of Siegen 2010-2013.

affect the present audience due to the fear that AIDS or AIDS activism might be forgotten in the future. So sound here is redone for a kind of memory activism, an activism in the fight for remembrance. But how does this memory activism sound like? How do these sounds represent the present instead of the past? Are there counter-sounds in the past? In the present? Where do we find queer sounds in regard to AIDS activism and how do they co-produce new configurations of what political protest is considered to be nowadays?

Let me refer to these questions in four steps. I will start with some remarks on the relation of sound and memory in regard to three documentaries, which have been released in the last 5 years (2). From this point of departure I will continue with considerations about the constitution of the relationship of noise and queerness as the urban soundscape of AIDS activism (3). Since my attempt is to rethink this relationship I, then, would like to go ahead with initial thoughts on "Sound-Escapade as an alteration of the previously developed noisy memorials of AIDS activism (4). "Sound of ballroom" (4.1) and "Camp Sounds" (4.2) are my concrete angles for discussing "Sound-Escapade" as one of the examples for a queer theory of sound activism. Sound-Escape or silence is another and will be discussed in the last section (5).

2 Sounding memory

"[R]emembering […] the past might be anarchically wounded by forgetting", writes Ricky Varghese, the editor of the current Drain Magazine on AIDS and Memory (2016). Forgetting seems to be the anarchy or anarchic wound of AIDS memory and thus of filmic attempts to capture HIV/AIDS. Remembering is so supposed to be the practice of healing the wound. But as Varghese also indicates: "remembering exist[s] in the time it takes to write a history, [it exists] within the very temporality that informs historicity" (ebd.). What is the temporality, the rhythm, the sound of cinematically remembering HIV/AIDS?

The documentary film "We were here" (David Weissman, 2011) burbles along with plucked strings, gentle percussion and the electronic sound system of harmless harmony[3]. The narrative and reflection of the US-American AIDS movement and the related self-organized structures of support that emerged in San Francisco transitions radically precisely at the moment when the international direct action advocacy group AIDS Coalition to Unleash Power, ACT UP! is introduced and visualized on the screen. This turn is not just characterized by the almost iconic representation of "carried images" (Holert, 2008) and graphics that Douglas Crimp denotes as "Demo Graphics" (1990) or Gregg Bordowitz as "Imagevirus" (2010), but also by the sudden introduction of noise emerging from the discreet cascade of keyboard and strings.

Without the "disruptive cacophony that ran counter to the official silence of government policy" – to put it in Beauchamps (2015) words – the soundscape of the documentary "United in Anger" (Jim Hubbard, 2012) takes you only to the elevator or shopping mall[4]. The ambient sounds of new age- or meditation-music with its evocation of pureness and even transcendence provide the framework for the dramatic outcry of activists calling on

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3 https://wewereherefilm.com/
4 http://www.unitedinanger.com/?page_id=158

the government to act. What is this supposed to mean? I guess, here we are seduced to learn about ACT UP! as the only radical form of protesting governmental and societal homophobia, racism and 'drugphobia'. At the same time we are encouraged to link noise with protest and, even more, with the achievements of a certain form of political agency: namely presence, street interventional protest, public collectivity, propagandistic images.

In the Oscar-nominated documentary "How to survive a plague" (David France, 2012) this link is strengthened to its maximum: Here we listen to a hollywoodish orchestration, which is typical in the context of the aestheticization of violence, death, and loss (Kutschke, 2012: 207). The overwhelming and sublime mode of expression through drums and lashing violins makes the suffering almost disappear by connoting the AIDS epidemic as an action movie and the mostly white male activists as its heroes[5].

Is the white male and heroic activist the reality of the past or the fiction of the present? Do we want ACT UP! to be remembered in its white heroism since we live in a time of a political impasse, in a time of "activism exhaustion" (Juhasz, 2016)? But don´t we – by rerecording the loss through noise, chants, clapping – risk to loose contact to the silence of mourning and the sonic introspection of the black, female, queer "domesticity in proximity to HIV" (Juhasz, 2016)? Don´t we unlearn to listen to the silent protests and ambient politics nowadays when we are trained to perceive noise as the primarily auditory medium of political and aesthetical participation? Don´t we neglect, that the „rhythms of our loss have changed" (Woubshet, 2015)? And can´t we – by acknowledging these changes – reconnect to the beat of "a politics of a personal of AIDS" (Juhasz, 2016) at the time of early AIDS crisis?

In order to carefully propose the political soundscape of sound-escapade and sound-escape let me briefly set out some thoughts on noise in interdependency with political categories like masculinity, Western ideology, whiteness, avant-gardism. Hereby I refer to the term soundscape – but from the angle of a queer ecology critique.

3 Soundscape

R. Murray Schafer, who coined the term soundscape as "a way of describing the relationship between sound and place" (Kelman, 2012: 163), determined noise as the typical outcome of an urban environment. In a noisy soundscape "individual acoustic signals are obscured in an overdense population of sounds", Murray informs in 1977 (in Bull, 2013: 64). The opposite – namely the rural environment, the pasture, the village, the farm – are imagined to be soundscapes in which "discrete sounds can be heard clearly because of the low ambient noise level" (ebd). This claim is accompanied by an idealistic imagination of pureness, transparency and the possibility to have access to a "total appreciation of the acoustic environment" (Schafer, 2012: 96) by listening. Thus, we are instructed to think and to hear in Western terms of immediacy and objectivity, and even more of heteronormativity that is "a performance that erases the trace of performance" (Morton, 2010: 279). It is less than surprising that the city in Schafer´s viewpoint delivers

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5 http://surviveaplague.com/

the schizophonic sounds (Schafer, 1977: 91), the obscured, the synthetic, the unnatural soundscape: in short the queer atonality.

At the same time he – by bringing up noise in the rural soundscape – refers to war and religion. By describing the "noise of clashing metal" (Schafer, 2012: 71) during a battle or the sacred noise of the church bell as well as the "clamorous urge of chanting and rattling" (ebd.: 73) during religious procession he implicitly discusses the aggressiveness of sound in two inherently masculine modes of power. So by claiming the "aberrational noise of war" (ebd.: 72) and religion as the punctuation of rural quietness he somehow delegates the argument of schizophonia to masculinity.

In the midst of this ambivalent intertwining of sound and gender/sexuality or let me say of sound and power I would now like to come back to the sound of ACT UP! orchestrated in the filmic memorials. Against the background of Schafer´s argument one could say that chanting, rattling, clapping are restaged as activist noises belonging to the urban environment as well as the alienating forces of queer longing and belonging, especially since the chants almost dissolve the attempts of displaying cities in their symphonic new-age harmonies. The filmic reduction to the affective and mobilizing qualities of noise risks to reproduce the cultural dominant model of homosexualized metropolitan sites and queer urbanity. Whilst AIDS activism is interlaced with metronormativity, a term that "reveals the conflation of 'urban' and 'visible' in many normalizing narratives of gay/lesbian subjectivities" (Halberstam, 2005: 36), noise can also be understood in its constitution as a violent masculine intrusion. Herewith ACT UP!´s sounds would release the same structure it was fighting against.

But do we really think it is as simple as that? Shouldn´t we try to listen to the queer potential of noise, interrogation or curiosity? Shouldn't we unlearn how to listen with the intention of orchestration? But what else than just rehabilitating noise we need to think? Where do we find the sounds that do not distance themselves from the urban environment or metropolitan influences, but still enable a queer tonality that marks an another way of political agency within the spectrum of AIDS activism. At the same time I would like to ask if we could find a queer tonality of AIDS activism that is not affiliated to the street or the city and that still does not produce a deterministic romanticism of the rural soundscape like Schafer does. For this purpose I would like to go on in the picture of two metaphors: sound-escapade and sound-escape.

4 Sound-Escapade

Listening with the intention of orchestration in order to gain access to the melody of nature, as Schafer wants us to, goes along with imaginations of the will. To refer to the notion of escapade instead is not about "asking to replace a notion of cognitive will with a notion of involuntary or unconscious activity" (Berlant, 2011: 116). But it is about responding to the "episodic intermission from personality, the burden of whose reproduction is part of the drag of practical sovereignty", as Lauren Berlant puts it (ebd.). So looking for the "small vacations from the will itself" (ebd.) means to inhabit agency differently and to respond to sound formulas that are the drag of the drag of practical sovereignty. Speaking in terms of

the drag of the drag of sovereignty I would now like to present two examples: 1) the sound of the ballroom and 2) camp sounds.

4.1 Sound of the Ballroom

The sound of the ballroom is affiliated to the aesthetics and culture of Vogue – a drag dance culture that is deeply embedded in black queer communities and thus one of those hardest hit by the HIV/AIDS epidemic. In voguing drag plays a central role, namely to unravel the codifications of gestures that mark gender and sexuality through repetitive moves which are laterally thwarted by exaggeration. This is what I would like to call the willful move of escapade. A willful move that is neither orchestration nor the absolute replacement of the will. But how does this move sound like?

For me Ultra-red´s collective listening procedure that served as the foundation of their exhibition Vogue'ology in 2009/10 is intriguing in this context[6]. The sound art collective Ultra-red was founded 20 years ago by two AIDS-activists working at the periphery of the periphery, namely with drug-users, women, undocumented people. In order to not only confront „the memory of a past activist moment, but its absence"[7] the collective „reconnects the art world and AIDS activism with memories of when the arts served as a crucial arena for open discussions about the pandemic."[8] Hence, they reinitiate those discussions with the related difference of understanding art and AIDS activism as a place of learning and listening, of learning listening. Vogue as a practice of performed explorations of gender and of learning performances serves as their model to revaluate listening not with the intention of orchestration, but of responding.

The orchestrated setting of listening is transformed into an invocation of "affective responses other than rage as constitutive of collective action"[9]. Ultra-red, thus, shifts the memorial sounds of anger to a tableau of listening and thus of being affected, instead of being the sovereign of political action. Invested in the contestation within the epistemologies of knowing they give the affective, the tactical, the palpable dimension of listening a try and, thus, contemplate the sound to be uncanny, obscured, unstable though durational, repetitive, looped (Radford, 2014).

By this kind of listening experience collectivity is created differently and reshapes public places. As Berlant in regard to Ultra-red writes: "it becomes slowly apparent that to cast the political as a feedback loop is another way to understand the ambiance of the classic public sphere (2011: 248). The public sphere, thus, becomes a place of a practice of collective listening, and listening becomes political in the sense of collectively making a change while being able to hear your own breath (ebd.).

From my point of view these participatory pedagogies of listening have un-consciously informed practices of current activism like Occupy – and here I would like to drop

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6https://vimeo.com/17700037. Organized Listening: Sound Art, Collectivity and Politics. Part I. November 18, 2010. Ultra-Red, Dont Rhine and Robert Sember, 2009/2010 Vera List Center Fellow

7http://www.ultrared.org/pso8.html

8Ebd.

9Ebd.

participatory practices of echoing which became known under the name of "human microphone"[10].

Inspired by practices of listening as those of echoing and looping instead of acting and outcrying I think we are enabled to become aware of sounds in the past that – in the heyday of street activism – went missing. Hence, I would now like to turn to a source that might have been underestimated in those times, but for me represents a form of sound activism that counteracts the nostalgia towards the kind of ACT UP! activism that the abovementioned documentaries bring to the foreground. I call it camp sounds.

4.2 Camp Sounds

At the center of my argument is the video "Divine is dead" of the independent filmmaker John Canalli. Canalli, who became known as the producer of a number of video documentaries about Wigstock, a popular annual drag performance party in New York, might have shot this video 1988 (we do not know for sure), when the American actor, singer, John-Water-muse and drag queen Divine has died from complications of obesity – 4 years before Canalli by himself died from complications from AIDS (March 25, 1992). The video displays a public funeral, which could be assumed to be the one of Divine but at the same time as one of the many that after a certain time determined the political aesthetics of ACT UP![11]. But actually, this is just the drag of the drag of the political funeral. We, here, deal with a totally staged funeral, a funeral without a real body, a funeral as a performance, a parody. What strikes me most is the camp-ness and gross exaggeration of the sounds of mourning, the moaning as shrieking, the sobbing as orgasming, the speech as campy voicing. Though it might be seen as obvious that in video the intertwining of queerness and artificiality, of drag and the noise of urbanity is reinforced I instead would like to follow a different approach on camp.

Juliane Rebentisch deals with Jack Smiths aesthetics of the natural (*kreatürlich*) dimensions of the Diva and thus, against Susan Sontag´s take on camp, argues for a notion of camp that is not disconnected from nature (2013: 168). On the contrary, camp secures nature as a moment of history.

In the video the dimension of nature comes with the laments that tilt into tribal sounds. The dynamic of laments that blend into tribal sounds and tribal sounds that become campy voices of mourning dissolves the border of nature and culture and envisions the materialist site of camp (ebd.: 174) just like the campy site of a nature-soundscape. The "false dichotomy of Nature and history on which […] homophobia depends" (Morton, 2010: 273) is revised by the interrelatedness of cultural and natural notions of camp.

On a broader scale the question of where political agency needs to be situated raises onto another plane. AIDS activism in the picture of a sonic camp-materialism gives rise to the presumption that political agency needs to be located in the instability and non-

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10https://www.youtube.com/watch?v=WUGq8UQ0rAs
11https://vimeo.com/158806271

essentialism of natureculture. An instability that makes nostalgia impossible, but utopia imaginable.

Nostalgia has often been the reason for controlling the past and cutting off future imaginations. Thus, AIDS and AIDS activism became contained in a limited set of images and, as I would like to add, sounds.
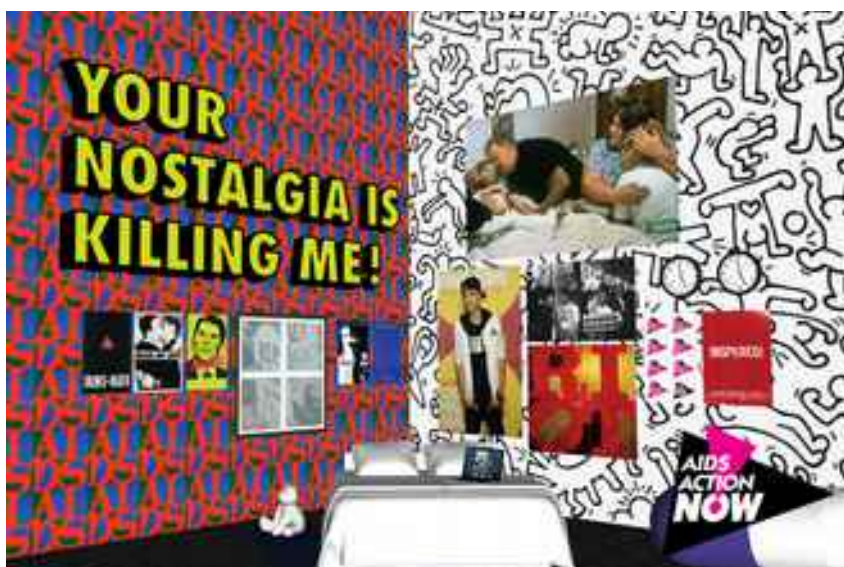
Fig. 1. Vincent Chevalier and Ian Bradley-Perrin, *Your Nostalgia is Killing Me*, 2013, Digital/Google Sketchup. Image courtesy AIDS Action Now and Poster/VIRUS (Toronto).

The poster *Your Nostalgia is Killing Me* (2013) from the AIDS activists Ian Bradley-Perrin and Vincent Chevalier puts on display the question to whom the hi-story of AIDS does belong, and who has been left out of that hi-story. Furthermore, it asks who is eventually killed by nostalgia since AIDS is brought to our consciousness by a narrow range of persons affected, that are white gay males, and issues, that are dying instead of ill health. In fact, we in Western states live in times where persons living with HIV or AIDS are predominantly aware of their sero-status and on anti-retroviral therapy so as to render their viral load un-detectable and hence their virus non-infectious (Köppert/Sekuler 2016). This changes narrative, this alters sounds and images, and thus the way we look at the history of AIDS and AIDS activism. From the perspective of ill health we learn about the political dimensions of silence and retreat today, which helps to perceive the rhythms of the past differently and to become aware of the mumming in AIDS history. So lets talk about sound-escape as an alternative to the normativity of urban activist noise <u>and</u> to the romanticism of rural quietness.

5 Sound-Escape

The opening sequence of Joaquim Pinto´s "E Agora? Lembra-me / What now? Remind me" (2013)[12] unfolds a soundscape of slowness and the perception of AIDS and chronic Hepatitis C as duration. Thus, it fits that the film as a notebook of a year of clinical trials is 170min. But actually we cannot hear slowness symbolized by the slug. Slowness sounds like silence. Since we learn that Pinto lives with his partner Nuno Leonel in the rural landscape of Portugal one might feel reminded of what Schafer argued in regard to the rural soundscape. He considered the silence and quietness of the rural soundscape as a way of healing from noise pollution and, thus, reproduced the bipolarity of nature and culture, village and city, rurality and urbanism. Pinto instead undermines the simplistic division. Not only that the first what we see while listening to the silence is a slug whose gender identity is hybrid and not locatable within heteronormative sexuality, we are also confronted with remarks that blend the drug-induced confusion of Pinto´s mind with the obfuscation of the proper meaning of his words since the treatment destroyed his teeth and with it the capability to articulate himself accurately. Living in the remoteness of a Portuguese village does not sound like the pureness and straightforwardness of rural landscape. Rather it sounds like the mesh of silence and clouded meaning, of classical music and electro-clash. While we watch the X-ray of his set of teeth, we listen to the song "The Plot" (2009) by WhoMadeWho, a band known for refusing classical popish and rock-ish elements like solo instrumental. At the same time we listen to quiet classical music later on. We hear the chugging of a tractor, the sowing of seed, the summing of a bee, but are sucked in the polyphonic structure of "potential soundtracks coming from a mixing table" (Ferreira, 2013) as well. And we listen to the mundane procedures of living with HIV in a highly capitalized and bureaucratic system of health service. Ambient sounds of the transit zones of the health care system (waiting room, hospital dispensaries) in the middle of the financial crisis of Spain from where he purchases the non-approved drugs enable to understand the political dimension of this just seemingly melancholic logbook. In fact we here deal with a form of video or filmic activism that is not shouting its message, that is not "the empty authority and authoritarianism of so much communication, a long linguistic and historical flood of [AIDS activist] propaganda, […] preaching, and the movement of [public intervention]." (Latimer et al. 2016) It rather subtly and silently crumbles the hopes of living in a post-AIDS time.

Silence, or what I call sound-escape, should not be misinterpreted as the total refusal from the auditory. Rather "[s]ilence is its in-between. It begs us to listen" to put with Stathis Gourgouris (2016) words. I, like Quinn Latimer and Adam Szymczyk, "survey silence as a necessary aspect of language, one less concerned with modernist compression, the aesthetics of the white page, and artistic withdrawal than as a means by which to propose the political act of listening and a kind of radical reception." (2016)

Ultra-red`s "Vogue´ology" and Joaquim Pinto´s "E Agora? Lembra-me?" quieten ACT UP! ´s famous chant „We´ll never be silent again!" without staging silence as a withdrawal from the political. Sound-escapade and sound-escape represent auditory approaches that form another understanding of what political art nowadays could be. Even more, they inspire to rediscover archival sources of AIDS activism and political art that have been silenced by the dominant slogan "SILENCE=DEATH". Since videos like John Canalli´s "Divine is dead" were sonically unconventional or too smooth they went missing. In times where traditional audio-aesthetics of the political no longer impact the political future and in which politicians

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12http://vimeo.com/user1109295/eagoraversfinal

occupy the post-public sphere of communicating 'true' feelings through seducing elements of noise (Trump!), we need to create silence in order to listen each other.

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24. The Politics of Resistance Music: Hong Kong's Tiananmen Square Incident Memorial Vigil

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Abstract. The June 4th Candlelight Vigil, held annually in Hong Kong since 1990, was until recent years the only mass public commemoration of the Tiananmen Square Incident on Chinese soil. In Mainland China, censorship of the massacre has largely expunged the event from national history. The vigil, organized by Hong Kong Alliance in Support of Patriotic Democratic Movements in China (HKASPDMC), is both a memorial event and a political ritual structured by musical performance, political speech and collective chant. In the aftermath of Hong Kong's 2014 Umbrella Movement, the June 4th Candlelight Vigil has increasingly come under scrutiny. At the crux of this criticism is HKASPDMC's position on Hong Kong's role in the democratisation of the People's Republic of China, its promotion of a patriotic, pan-Chinese identity, and questions over the ritual's efficacy as a medium of pragmatic political campaigning. This opposition led to the emergence of alternative June 4th events staged within the city in 2016; most significantly, the Joint Institution Forum on Tiananmen Square, a collaborative event between eleven tertiary institutions held at Chinese University of Hong Kong. These events notably dismantle HKASPDMC's ritual performance structure, silence its patriotic music, and endeavor to reconstruct the local political narrative of the Tiananmen Square Incident in accordance with a localist political perspective. By and large, current literature on music as resistance portrays it as a positive agent of socio-political change. However, music can occupy varying and sometimes conflicting roles in the context of political resistance. In analyzing HKASPDMC's June 4th Candlelight Vigil as a site of contestation, this paper integrates musical analysis and cultural memory theory to discuss the role of music in the (re)construction of cultural memory, itself contested terrain in the domains of agency and political history.

Keywords: Music, social performance, politics, cultural memory, resistance.

1 Introduction

The June 4th Candlelight Vigil, held annually in Hong Kong since 1990, was until recent years the only public commemoration of the Tiananmen Square Incident of 1989 on Chinese soil. In Mainland China, censorship of the massacre from the national curriculum of education to print media, information and communication technology and social media have largely expunged the event from national history. Organised by Hong Kong Alliance in Support of Patriotic Democratic Movements in China (HKASPDMC; hereafter referred to by the colloquial 'Hong Kong Alliance'), the annual June 4th Candlelight Vigil is both a mass memorial event and a political ritual structured by the performance of patriotic music, political speech, and collective chant.

In the aftermath of 2014's Umbrella Movement, the June 4th Candlelight Vigil has increasingly come under scrutiny. At the crux of this criticism is Hong Kong Alliance's stance on Hong Kong's role in the democratisation of the People's Republic of China (PRC), its promotion of a patriotic, pan-Chinese identity, and questions over the ritual's efficacy as a medium of pragmatic political campaigning. Opposition to Hong Kong Alliance's vigil led to the emergence of alternative June 4th events staged within the city in 2016; most significantly, the Joint Institution Forum on Tiananmen Square, a collaborative event between eleven tertiary institutions held at Chinese University of Hong Kong, and a parallel event organized by Hong Kong University Students' Union. These events notably dismantle Hong Kong Alliance's ritual performance structure, silence its patriotic music,

and endeavor to reconstruct the local political narrative of the Tiananmen Square Incident in accordance with a localist political perspective.

By and large, current literature on music as resistance portrays it as a positive agent of socio-political change. In perpetuating this prevailing assumption, music as resistance is valorised as a force for good. However, music can occupy varying and sometimes conflicting roles in the context of political protest and resistance. In this paper, I conduct a comparative analysis of Hong Kong Alliance's mainstream vigil with the Joint Institution Forum on Tiananmen Square, held at the Chinese University of Hong Kong. In doing so, I integrate musical analysis and cultural memory theory to explore the role of music in the (re)construction of cultural memory, itself contested terrain in the domains of agency and political history. Both events, as forms of social performance, seek to establish a consensus narrative on the political history of the Tiananmen Square Incident as a means to build and/or sustain support for their respective political aspirations. Through an analysis of the receptivity and treatment of patriotic music, conditioned and circumscribed by the city's current socio-political climate, we can glean fresh insights into the cultural dynamics of music and the (re)construction of cultural memory in connection to political agency.

2   Cultural Memory – Theoretical Considerations for Social Performance

Before I focus upon music and the aforementioned events under analysis more intently, it is fitting to relate current definitions of cultural memory to the phenomenon of social performance. Cultural memory is constructed, expressed, represented and made manifest through interpersonal relations, institutions, social networks, technoculture, public archives, myth, traditions, rites and other forms of social performance (Halbwachs, 1992; Olick, 1999; van Djick, 2007). It intersects individual and collective memory, forming part of a complex spectrum that encompasses the private and personal, to the public and institutional (van Djick 2007:12; 14; 21-22). Insofar as corporate interests vie over the political purchase vested in promoting contesting versions of cultural narratives, cultural memory is also malleable, dynamic, and occasionally disputed.

Though both events under analysis in this case study are structured by very different performance modes, both constitute social performances. Both events represent formal systems of socially shared and culturally transmitted information, whereby contributors enact specific roles to influence the perceptions and responses of observers or co-participants (Goffman, 1959:15-16). As performative modes of political resistance, both events illuminate the political dimension of cultural memory as a site of struggle over meaning making.

Recent research in the field of social and cognitive psychology on the theory of dual memory systems for acquiring, retaining and recalling information may provide clues about the relationship between cognition, social performance and the negotiation of consensus narratives in cultural memory. Socially acquired and culturally transmitted knowledge, reiterated or repeated over time to carry out certain processes or functions, can become stored in the schematic, associative slow-learning memory system. Thus, the most significant finding of Smith and DeCoster's dual memory systems theory is that "… Cognition occurs in a social system, not in an individual brain." (Smith and Decoster,

2000:128). This case study may offer further insights upon the importance of social performance in building, and reforming, consensus narratives, and the performances strategies – including the role of music – in validating them beyond subjective persuasiveness towards wider social acceptability.

While social performances form a powerful means with which to build, shape, and interact with cultural memory in meaningful ways, we must also recall that the social and cultural conditions within a given environment define how the present and the past are remembered. Furthermore, the socio-cultural environment within which social performance takes place conditions the interpretation and receptivity of performance modes and material, including musical performance. In the following sections, I attempt to demonstrate that Hong Kong Alliance's use of patriotic music in the memorial enactment of its ritual tradition has become embroiled in the identity politics of a city undergoing socio-political upheaval. In turn, competing narratives over the meaning of the Tiananmen Square Incident to Hong Kong are being negotiated, reformulated and promoted. A contest pivots upon what version - and whose - is seen, heard, and passed on.

3   Musical Structures, Ritual Structures: June 4th Candlelight Vigil to Commemorate the Anniversary of the Tiananmen Square Incident

Following a brief background on Hong Kong's response to the Chinese Student Democracy Movement of 1989, and the political background of Hong Kong Alliance, this section details how the vigil's acoustic environment and musical performances structure the event, direct ritual experience, and reinforce patriotic, anti-Communist political ideals.

Founded in May 1989, Hong Kong Alliance organised a series of mass rallies from 20th May - 9th December 1989 in support of The Chinese Student Democracy Movement of the same year. This marked the first time in Hong Kong's history where citizens demonstrated en masse against the Mainland Chinese government, and support for The Chinese Student Democracy Movement inspired a wave of patriotic fervor in Hong Kong. On 4th June 1989, approximately 1.5 million people took to the streets in Hong Kong in response to the violent crackdown; around 20% of the population of the city at that time (Mathews, 1997:59-60). The use of military force at Tiananmen Square, bringing the Chinese Student Democracy Movement to its end, created a deep social rupture in Hong Kong as to subsequently motivate a wave of emigration out of the city in fear of its impending transition back to PRC sovereignty.

Since 1990, Hong Kong Alliance has organised a candlelight vigil in the city to commemorate the anniversary of the incident, held each year in Victoria Park, Causeway Bay. The vigil is a public ritual event staged as a memorial service for the victims of the Tiananmen Square massacre. It also provides Hong Kong Alliance with a platform to promote its political ideology and raise funding for its various projects, including the world's only June Fourth Museum, which closed its doors in July 2016. The vigil is recorded with archived footage available on Hong Kong Alliance's website[1]

The five tenets of Hong Kong Alliance's manifesto provide a concise summation of Hong Kong Alliance's political ideology. Chanted repeatedly throughout the vigil, they are as follows:

1.   Demand the release of all [incarcerated] dissidents

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1 https://64vigil.wordpress.com/2016/06/04/6427-2/

2.   Vindicate the 1989 pro-democracy movement
3.   Demand accountability for the June 4th massacre
4.   End one-party dictatorship
5.   Build a democratic China[2]

The founding Chairman of Hong Kong Alliance, Szeto Wah (1931 – 2011), was a founding member of the city's moderate Democratic Party, founded in 1994. Current chairman of Hong Kong Alliance, Albert Ho Chun-yan, was former Chairman of the Democratic Party from 2006-2012 and Legislative Councillor from 1995-2016.[3] The Democratic Party recognises China's sovereignty over Hong Kong, and have favoured negotiation with Beijing as part of their strategy towards incremental democratic progress in the city. The Democratic Party faced a backlash from other pan-democrat parties in 2010, when it voted with the Hong Kong government on the *Consultation Document on the Methods for Selecting the Chief Executive and for Forming the LegCo* [Legislative Council]. A conservative electoral reform proposal with strict bounds set by Beijing, pan-democratic parties – including the Democratic Party - denounced the reforms as regressive, falling far short of the ideal of universal suffrage. However, the Democratic Party believed that the central Beijing government could be willing to grant reform concessions to Hong Kong, in part so as to offset international pressure over human rights in Mainland China.[4] It later emerged that during related negotiations between Democratic Party leaders and Li Gang, then deputy director of the China Liaison Office in Hong Kong in May 2010, Gang conveyed central government demands for the Democratic Party to distance itself from Hong Kong Alliance and the issue of June 4th. The Democratic Party members rejected these demands.[5]

3.1 The June 4th Candlelight Vigil: Music, Symbols and Ritual Space

Since the June 4th Candlelight Vigil is structured as a public memorial service, it can be defined as a rite of intensification. Rites of intensification are communal acts held for reasons which include, but are not limited to:

1.   Marking crisis within a social group, e.g. war, natural disaster, etc.
2.   Marking the death of a considerable number of persons within a social group / an individual of particular significance to a social group.
3.   To reaffirm commitment to a particular set of values and beliefs (Moore, 1998:144-45).

One of the most significant functions of rites of intensification is to encourage solidarity; to unite people in a common effort to overcome/face up to a problem or threat, until a sense of social equilibrium is restored. In the case of the June 4th Candlelight Vigil, this function is met through a social performance which borrows recognisable symbols and symbolic actions from those common to other memorial services and funerary rites. Since this ritual is highly political in nature, it also borrows from conventions and modes of communication common to political rallies.

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2 Hong Kong Alliance, "Five Operational Goals," https://hka8964.wordpress.com/hkaeng/#eng_who.
3 Lee Cheuk-yan, founding Chairman of the moderate, centre-left pro-democratic Labour Party, served as Chairman of Hong Kong Alliance from 2011-2014.
4 Ambrose Leung, "Top Democrats Could Resign if Talks Fail," South china Morning Post, June 14 2010, accessed August 28, 2016, http://www.scmp.com/article/717076/top-democrats-could-resign-if-talks-fail.
5 Gary Cheung and Tanna Chong (2010). "Democrats Were Urged to Renounce Alliance," South China Morning Post, http://www.scmp.com/article/719190/democrats-were-urged-renounce-alliance.

Non-Acoustic Symbols/Symbolic Actions	Acoustic Symbols/Symbolic Actions
Burning of books of condolence in front of Goddess of Democracy statue	The observance of one minute of silence
Candlelight vigil during sunset hours (mourning practice)	Musical performance
Synchronised movement (e.g. raising candles)	Call and response chanting (especially of HK Alliance Manifesto before/after musical performance)
Goddess of Democracy Statue (a replica of the Goddess of Democracy statue created during the Tiananmen Square protests; subsequently demolished by People's Liberation Army)	Use of dual dialects (Cantonese and Mandarin)
Replica of Monument to the People's Heroes – site of the wreath laying ceremony	Political speech

Rituals enable societies to manage the transmission of cultural memory by bringing people, places and cultural production together in a shared, conceptual, experiential event. The musical performances of Hong Kong Alliance's June 4th Vigil, however, not only help to commemorate the history of the Tiananmen Square massacre in spite of blanket state censorship of political criticism in the PRC. Hong Kong Alliance's musical program sonically figures a mainstream anti-Communist political rhetoric emphasising pan-Chinese identity, and the decades-long struggle for democracy on both sides of the border. In the following section, I analyse two important pieces from the June 4th Vigil's musical program to demonstrate how music plays a highly significant role in reinforcing Hong Kong Alliance's ritual tradition myth; a tradition myth grounded in bridging the temporal and geopolitical divide between the Chinese Student Democracy Movement and Hong Kong's own political environment.

3.2   Musical Analysis – "Bloodstained Glory" and "Freedom Flowers"

Since its inception in 1990, the program of events at the June 4th Candlelight Memorial has featured between three to six core performances of songs in both Cantonese and Mandarin. These songs represent a combination of traditional Chinese and Cantonese/Mandarin popular musical elements, and have long-established roots within the cultural heritage of both Hong Kong and Mainland China. As the ritual program is highly standardised, the songs used during the vigil have formed something of a canonic repertoire over the years; program pamphlets with song lyrics are printed and distributed, to encourage participation in mass singing. The following songs have been a mainstay of the ritual event since the 1990s: "Bloodstained Glory," "Freedom Flowers," "Tribute to the Martyrs," "Chinese Dream,"[6] with the more recent addition of "Democracy Will Triumphantly Return" in 2012. Yangzhte and Yellow River, an instrumental piece for erhu and yangqin, accompanies the wreath-laying at the Monument to the Peoples' Heroes, while solo drumming accompanies the ceremonial lighting of the torch (usually closely followed by the opening bars of "Tribute to the Martyrs").

For the purposes of this paper, and for the sake of brevity, I limit my analysis to "Bloodstained Glory" (Xue ran de fengcai, in Mandarin) and "Freedom Flowers" (Zi you fa, in Cantonese). This selection was prompted by an interview discussion with current vice-Chairman of Hong Kong Alliance, Richard Tsoi's Yiu-Cheong. Tsoi described how the extra-musical meaning associated with "Bloodstained Glory" and "Freedom Flowers" lends to their suitability within the performance context of the June 4th Candlelight Vigil. Both songs, each representing the themes of mourning and continuous struggle which structure the vigil, are borrowed from older musical sources and hold widely-recognised cultural associations.

"Bloodstained Glory" (Xue ran de fengcai, 血染的风采) was originally a military song written for the People's Liberation Army, to commemorate China's People's Liberation Army soldiers who fell during the Sino-Vietnam War (February 16-March 17th 1979). Composed by Su Yue 苏越, with lyrics by Chen Zhe 陈哲, the song became hugely popular in Mainland China after it was performed at the 1987 China Central Television (CCTV) Spring Festival Evening New Year Gala. Xu Liang 徐良, a Sino-Vietnam War veteran who

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6 "Chinese Dream" has been discontinued for the foreseeable future, due to Xi Jinping's use of the phrase 'Chinese Dream' in reference to national economic development.

had lost his leg in battle, took to the stage to sing the song, with popular Mainland musician Wang Hong (王虹) singing the chorus. Student demonstrators from Tiananmen Square delivered a cassette recording of this song to supporters in Hong Kong, who then delivered it to broadcast station Radio Television Hong Kong (RTHK) in 1989. The song went on to become popular in Hong Kong – it won the RTHK Top Ten Chinese Golden Songs: Excellent Mandarin Pop Song Award of 1989, and has been covered by popular Hong Kong artists such as Anita Mui and Beyond.

Wang Hong's recording of "Bloodstained Glory" is the version predominantly used at the June 4th Candlelight Vigil, broadcast over loudspeakers while Hong Kong Alliance representatives onstage lead the attendees in singing the song. The recording's instrumentation includes a mixture of synthesised sounds, acoustic and bass guitar, drums, Western flute and erhu. The erhu engages in call and response antiphony with the pentatonic melody sung in Mandarin; Wang Hong's style of vocal delivery akin to the modern day style of Peking Opera. Anita Mui's version, used in 2016's vigil, substitutes the erhu for the electric guitar. Mui's vocal delivery, at times powerful and in a markedly lower register, is closer to a Cantonese popular style, with heavy vibrato present during the rousing chorus.

"Bloodstained Glory" has been performed since the June 4th vigil's inception in 1990. Tsoi explains the song's connection to the 1989 Chinese Student Democracy Movement:

> Xue ran de fang cai [Bloodstained Glory]...Beijing Students sung it a lot at that time. But it is not generally from 1989, but earlier, maybe even 10 years [before]. It's related to the Liberation Army. Actually the 20th, 21st [May 1989], something like that, the Liberation Army came to Beijing city. The residents and students there tried to abort them, and tried to persuade them that the students are not carrying out any revolutionary activities. So they tried to persuade [the People's Liberation Army] by singing the song that the Liberation Army shared a lot, Xue ran de fang cai. This may also be because Xue ran de fang cai talks about people willing to sacrifice themselves for their country, for their nation. So this feeling may also be shared amongst some of the students there. Students at that time were hunger striking; they may also feel they are sacrificing their life for the future, for their nation. (Richard Tsoi, 2016, personal communication).

The performance of this song within the context of the June 4th Candlelight Vigil semantically transposes its past associations with noble sacrifice, martyrdom and struggle to the victims of Tiananmen Square, whilst reenacting the embodied practice of student protestors singing this song at a critical point of the Chinese Student Democracy Movement.

Whereas "Bloodstained Glory" features prominent aural signifiers of Chinese musical identity, "Freedom Flowers" has altogether different musical beginnings. "Freedom Flowers," first performed during the June 4th Candlelight Vigil in 1995, is set to the melody of Taiwanese popular song "Sailor," written in 1992 by Zheng Zhihua (鄭智化). Hong Kong lyricist Thomas Chow (周禮茂) later set the melody to Cantonese lyrics. Tsoi explains the song's relevance to the June 4th Candlelight Vigil in terms of the importance of sustaining the Tiananmen Square memorial, and in reference to Hong Kong Alliance's manifesto goal to "Free the dissidents":

> Wang Xizhe (王希哲) was jailed before 1989, relating to the democracy movement of the late seventies. [He was] in jail in Guangdong, and I think in 1995, he was released. Some Hong Kong media [outlets] interviewed him. He sang some of the song [whilst he was being interviewed] …The content, the wording, it also touches upon the feelings of the people several years after 1989…That some people may not even bother to talk about June 4th. But we still remember. We are still hoping that changes. (Richard Tsoi, 2016, personal communication).

The lyrics to Freedom Flowers include the following: However, one dream would not die/Remember, no matter how the rain bashed it, freedom would blossom/However, one dream would not die/Remember, this is from the heart of you and I, remember/Those that cannot be forgotten have left an immortal consciousness/ I Deeply believe that it will become true in some evening of some year/It would rely on all my strength to strengthen this message/In order to continuously search for this ideal.

The musical examples of "Bloodstained Glory" and "Freedom Flowers" highlight the use of aesthetic devices such as intertextuality and recontextualisation, drawing upon culturally recognised extra-musical meaning to construct and enact cultural memory within the context of the June 4th Candlelight Vigil. The core musical performances in the ritual program, in conjunction with other symbolic media, reinforce a political narrative that assumes a historic continuity with the goals of the Chinese Student Democracy Movement. The somewhat fixed nature of these musical performances underscores this continuity by their inherent referentiality to the past twenty-six years of this event. Yet the continued survival of this recent ritual tradition in Hong Kong depends not only upon a suitable historic narrative to retain its legitimacy, but also upon its relevance to current political realities. In 2015, the event's organisers ostensibly tugged upon the connective thread which runs between Hong Kong's recent Umbrella Movement and the Chinese Student Democracy Movement - the desire for a representative, democratic political system. This was marked by the inclusion of newly-emergent protest anthem "Raise the Umbrella" into the event's program. The desire to assimilate Hong Kong's most significant event in recent political history into Hong Kong Alliance's June 4th vigil tradition myth proved to be short-lived, amid rising localist sentiment at odds with Hong Kong Alliance's mainstream anti-Communist political stance. Raise the Umbrella was dropped from 2016's June 4th Candlelight Vigil ritual program, alongside the 2015 Vigil's iconography of an upturned umbrella used as a candle holder. In the following section, I briefly discuss the background of localism, before embarking upon an analysis of the Joint Institution Forum held at the Chinese University of Hong Kong on June 4th, 2016.

4   June 4th, Localism and Identity Politics in post-Occupy Hong Kong

That the June 4th Candlelight Vigil has become a site of contestation in Hong Kong is a reflection of broader social and political changes in recent years. This has most notably taken form in the growing momentum of a localist political ideology, especially in the wake of 2014's Umbrella Movement. The cornerstone of localism is a 'Hong Kong first' approach; that the democratisation of the PRC is not Hong Kong's responsibility, nor is the political future of democracy in Hong Kong necessarily dependent upon PRC democratisation. To many localists, notions of responsibility to the PRC's democratisation are thought to detract from local efforts to preserve civic and institutional freedoms (supposedly guaranteed under Hong Kong's constitution, the Basic Law, until 2047).

The term localism is applied to a variety of individual standpoints and collective political affiliations that advocate varying models of greater political autonomy for Hong Kong from the PRC; from self-determination as a city-state, to a fully independent Hong Kong nation state or - at the very least - the opportunity to hold a public referendum on the city's political future. Localism, however, is a rather slippery term, and one that is still debated and negotiated amongst political activists, commercial mass media (and social media) commentators, and activists-turned-lawmakers alike. The term joins a growing number of

nascent neologisms coined to keep up with the changing political landscape amongst democrats of all persuasions: traditional (pre-Occupy) moderates (e.g. Democratic Party), pre-Occupy radicals/nativists (e.g. Civic Passion), post-Occupy radicals/nativists (e.g. Hong Kong Indigenous; pro-independence separatists), post-Occupy localists (e.g. Demosisto, supports self-determination; representatives attended Hong Kong Alliance's Candlelight Vigil in 2016). Indeed, such binary concepts of "moderate" and "radical" in reality fall across a political spectrum and are continually redefined.[7]

Whilst localism has gained a great deal of traction following the Umbrella Movement, its popularisation is frequently attributed to the publication of 'On the Hong Kong City State (2011),' by Wan Chin, an alias of Chinese Studies academic Horace Chin Wan-kan. The author's city-state theory frames local cultural identity as an ideological boundary to the PRC, with tight border controls forming a physical boundary, to repel the socio-political assimilation of Hong Kong by the Chinese Communist Party (CCP) into a one country, one system political status. With reference to Benedict Anderson (1983), Tommy Cheung suggests that this framework provides an ideological space within which a Hong Kong nation state could be imagined; hence the reason Wan Chin is referred to as the "Father of Hong Kong Nationalism" despite himself explicitly rejecting the need for independence (Cheung, 2015). Unsurprisingly, Dr. Horace Chin Wan-kan has been vocal in his condemnation of the June 4th Candlelight Vigil and its patriotic overtones. Dr. Chin took particular grievance with Hong Kong Alliance's controversial 2013 slogan, "Love the Country and Love the People, Hong Kong Spirit," which Hong Kong Alliance adopted as a challenge to the CCP's interpretation of patriotism.[8]

The growing momentum of localism in Post-Occupy Hong Kong and by corollary, the growing repudiation of patriotic ties to Mainland China, comes at a time when the city's 'One Country, Two Systems' strategy languishes in jeopardy. The broken promise of democratic electoral reform which precipitated the 2014 Umbrella Movement, alleged political interference behind the selection of Hong Kong University Council's vice-Chancellor in 2015, the disappearance and detention in 2015 of five Causeway Bay district bookstore employees (the store was known for selling salacious gossip novels on high-profile CCP figures), and the Education Bureau's recent warning that teachers could face losing their qualifications if they discuss independence in schools,[9] point to a hardline approach from Beijing trumping 'One Country' over 'Two Systems. In the September 2016 Legislative Council elections, the first in Hong Kong since the dissolution of the Umbrella Movement, candidates from localist political parties Demosisto and Youngspiration - formed by Umbrella Movement activists - were successfully elected into the legislative chambers. In November 2016, however, two elected Youngspiration law-makers were disqualified from the Legislative Council following personal acts of protest during their oath-taking ceremony. The National Peoples' Congress Standing Committee enforced an

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7 For example, the (relatively moderate) Civic Party proclaimed a Hong Kong first approach in its 10-year manifesto, citing the erosion of "One Country, Two Systems" and Beijing's reinterpretation of Basic Law articles to deny Hong Kong an autonomous, democratic electoral system based upon universal suffrage (http://www.civicparty.hk/?q=en/node/7026).

8 Hong Kong Alliance promptly dropped the slogan following heated debate between Alliance member Tsui Hon-kwong (who has since resigned), and Professor Ding Zilin, founder of the Tiananmen Mothers' Support Group. Prof. Ding Zilin lost her son in the crackdown on Tianamnen Square. Joshua But, "June 4 Vigil Slogan Stirs Up Simmering Row in Pro-Democracy Camp," South China Morning Post, June 3, 2013, Accessed December 9, 2015, http://www.scmp.com/news/hong-kong/article/1252138/june-4-vigil-slogan-stirs-simmering-row-pro-democracy-camp.

9 Kris Cheng (2016). "Teachers Warned They Could Lose Qualifications for Advocating Independence in Schools," Hong Kong Free Press. https://www.hongkongfp.com/2016/08/15/teachers-warned-lose-qualifications-advocating-independence-schools/.

interpretation of Hong Kong's Basic Law to expel them on the grounds that they did not fulfill their obligation to swear allegiance to Beijing.

5   The Rise of Alternative June 4th Events

The mainstream June 4th Candlelight Vigil consistently attracts crowds of over 100,000 participants each year; it would be remiss to understate the continued support for the vigil. However, as mentioned previously, Hong Kong Alliance's position on Hong Kong's role in democratising Mainland China has prompted many tertiary student organisations to stage alternative June 4th events in 2016. While pre-Occupy nativist political group Civic Passion (established in 2012) has staged modestly-attended alternative June 4th protest rallies since 2013, Hong Kong University's Student Union (HKUSU) hosted its own on-campus June 4th event in 2015. As April 2016 saw the withdrawal of the Hong Kong Federation of Students from Hong Kong Alliance[10] over the issue of Hong Kong's role in Mainland democratisation, many tertiary student unions held their own June 4th events across the city. HKUSU once again held an independent June 4th event in 2016, which was open to the public. The Chinese University of Hong Kong's Student Union (CUSU) staged their event, the Joint Institution Forum on Tiananmen Square, in collaboration with ten other tertiary student unions. All of the aforementioned alternative June 4th events from 2013-2016 abandoned the ritual structure which directs the experience of the mainstream vigil. With regards to the student-led June 4th events, organisers (and attendees) commonly dismiss Hong Kong Alliance's choreographed ritual performance as ineffective, opting instead to hold political fora on this significant day:

It is absolutely fine to commemorate [June 4], we understand that many students and other people will commemorate," Chow Shue-fung [current Chinese University of Hong Kong Student Union President] said. "Commemoration comes from the heart, but is it necessary to host a ceremony where many people come together to wave candles and sing...Our view is that if it is possible to gather some hundred thousand people, shouldn't we do something more meaningful with discussion or reflection on what we can do for Hong Kong's future?[11]

As the largest collaborative effort amongst the alternative June 4 events, the following discussion focuses primarily upon the Joint Institution Forum held on June 4th 2016 at the Chinese University of Hong Kong, which pushed the envelope for Hong Kong's independence.   In the remainder of this section, I briefly recount the forum's narrative themes to illuminate how the event, stripped of the mainstream vigil's symbolic and ritual content,[12] embodies a social performance that attempts to redefine the Tiananmen Square Incident from a local perspective in accordance with Hong Kong-centered political aspirations towards greater autonomy/independence.

5.1 The Joint Institution Forum on Tiananmen Square
The Joint Institution Forum was a public event staged in front of a capacity crowd (approx. 1500 with additional standing room) at the Chinese University of Hong Kong's Sir Run Run Shaw auditorium, with English translation available. The event was also recorded, live-

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10 The Hong Kong Federation of Students were co-founders of Hong Kong Alliance.

11 Kris Cheng (2016), "Victoria Park Tiananmen Vigil has become Rigid, CUHK Student Leader Says," Hong Kong Free Press. https://www.hongkongfp.com/2016/05/26/june-4-tiananmen-vigil-at-victoria-park-has-become-rigid-cuhk-student-leader-says/

12 HKUSU's forum, on the other hand, observes a one-minute's silence to mourn the Tiananmen Square victims.

streamed, and uploaded onto YouTube (https://www.youtube.com/watch?v=oXQVVSRE73E). The forum constituted two parts, featuring debate led by two line-ups of five panelists, all of whom support greater autonomy for Hong Kong or Hong Kong independence. Preceding part one, two short video clips were shown. The first, depicting documentary footage of the 1989 Tiananmen Square Massacre, was followed by a reading of the Joint Institution Declaration for the Tiananmen Massacre. The second clip reiterated oft-recited critique of Hong Kong's Alliance's Candlelight vigil; that the Alliance repeats its choreographed ritual ceremony in spite of a lack of progress towards realising its political objectives. This set the tone of debate for the first part of the social performance, which drew connections between the Tiananmen Square Incident, fear of confrontation by the People's Liberation Army, and the shortcomings of traditional modes of political resistance (in reference to Hong Kong's annual street protest rallies, held every 1st of January and 1st July (Hong Kong Special Administrative Region Establishment Day), and the mainstream June 4th ritual). Part two of the forum made the case for Hong Kong independence as the best way to safeguard Hong Kong's future autonomy and democracy.

Part 1: Recollection of Massacre Memory From Local Perspective	Part 2: Hong Kong's Fate Under the Dictatorship
Guest Speakers: Chip Tsao (a.k.a To Kit, renowned columnist) Lewis Lau (a.k.a Lewis Loud, columnist) Chan Ya-ming (former Editor-in-Chief for HKUSU publication The Undergrad) Cheng Lap (columnist)	Guest Speakers: Brian Fong Chi-hang (Assistant Professor in the Department of Asian and Policy Studies, Faculty of Liberal Arts and Social Sciences, Hong Kong Institute of Education) Andy Chan Ho-tin (Convenor of Hong Kong National Party) Ray Wong Toi-yeung (Convenor of nativist political party Hong Kong Indigenous) Sixtus 'Baggio' Leung Chung-hang (Convenor of localist political party Youngspiration; elected but disqualified Legislative Councillor) Tommy Cheung Sau-yin (former president of CUSU, former member of Scholarism) Host: So King-hang

The Joint Institute Declaration on the Tiananmen Massacre reflects the event's themes and political agenda. In reevaluating the local historic narrative of The Tiananmen Square Incident, the Declaration states that Hong Kong's political present is at a critical juncture in "…[Facing] a second negotiation for Hong Kong's future."[13] It invokes the memory of Premier Li Peng's May 19th meeting with student protestors shortly before the Tiananmen massacre took place,[14] arguing that negotiation with Beijing is fruitless as the CCP are brutal and unyielding. The Declaration goes on to reject the notion that Hong Kong should

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13The "second negotiation" makes an oblique reference to the Sino-British Joint Declaration signed in 1984, and alludes to recent calls from various political groups for a city-wide public referendum to be held on the future of Hong Kong's political status post-2047.

bear a role in the democratisation of the PRC on the premise that the realisation of democracy under CCP rule is impossible. Accordingly, the two rounds of debate constituting the forum are anchored in rhetoric which separates Hong Kong's pursuit of democracy from pan-Chinese patriotism, and frames a socio-culturally distinct Hong Kong subjectivity as political leverage against incursions on Hong Kong's autonomy by the CCP regime - reiterating the central underpinnings of Wan Chin's city-state theory.

The debate coalescing around June 4th has raised the possibility of abandoning June 4th events altogether in favour of commemorating other significant events, such as Establishment Day (July 1st) or day one of the Umbrella Movement (28th September).[15]The consensus opinion reached by the Joint Institution Forum, however, is that Hong Kong's people *should* memorialise the Tiananmen Square Incident, albeit on the premise that patriotism and the pursuit of democracy pose an intrinsic contradiction.[16] However, with the debate turning to talk of victim-indebtedness, and the collective need amongst generations more directly affected by the massacre to release the traumatic experience, a consensus was not reached over *how* to memorialise it. In an interview with Chow Shue-fung, Chow commented that 2017's Student Union Committee may do something different on June 4th, or that holding a political forum year after year may one day exhaust subjects up for debate (Chow Shue-fung, 2016, personal communication). During the course of the forum, local columnist Chip Tsao succinctly addressed this line of enquiry: "Hong Kong is a city of choices; people can commemorate in multiple ways." [Tsao, 2016, Joint Institution Forum on Tiananmen Square). Drawing laughter from the audience, he quipped that localists and Hong Kong Alliance can rotate the use of Victoria Park on an annual basis.

The work of David I. Kertzer has long established that the social power of political ritual lies in its complex symbolic performance. Symbols bear instructional content made compelling by emotional and sensory stimuli, having a "…Cognitive effect on people's definition of political reality (Kertzer, 1988:14)." Following Thomas Turino, music is a key resource in ritual and other social performances geared to conjure up social cohesion and momentum of purpose (Turino, 1999:236). Turino, in charting a theory of music, emotion and identity based upon Peircian semiotics, points to the affective capacity of musical sounds as the mortar of identity-formation. Our interpretation of, and affective response to, musical sounds is grounded in individual and interpersonal experience (its 'indexical' quality); inextricably dependent upon time, context, and culturally determined modes of performance/listening practices (Turino, 1999:234-236). Music, semantically, is both complex and ambiguous (Turino, 1999:237). As Kertzer would have it, the "virtue of ambiguity" in the performance of symbolic acts using codified symbolic media lies in the potential for emotional impact in spite of, or perhaps because of, their semantic malleability: "…Fostering solidarity without consensus" (Kertzer, 1988:69). In other words, symbols – aural or otherwise - can evoke an emotional response even as they hold different nuances of meaning to different people, or conflicting meanings for the same individual (Kertzer, 1999:69). The patriotic music of Hong Kong Alliance's June 4th ritual bears complex sematic layers of intertextuality to recognisable cultural phenomenon and emotive themes to index the social rupture caused by the Tiananmen Square incident; an event which, not least generationally speaking, will not be uniformly recollected by the

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14Li Peng served as the fourth Premier of the PRC from 1987-1998. Joint Institution Declaration for the Tiananmen Massacre, June 2016, http://www.inmediahk.net/node/1042566.

15Chow Shue-fung, 2016, personal communication.

16HKUSU's Declaration on the Tiananmen Square Massacre conveys a very similar message: "Today, revisiting the historical meaning of the Massacre is to tell everyone that it is more important to recognise the pursuit for freedom and democracy, than the absurdity in patriotism." Declaration of the Hong Kong University's Student Union on the Tiananmen Massacre, June 4 2016.

vigil's attendees and supporters. The vigil's music provides an aural representation of the relationship between the past and the present - one anchored in promoting the master signification of mainstream anti-Communism upheld by an established pan-democratic political aggregate, Hong Kong Alliance. Memory is a not only a "…Creative act in the present;"[17] it is also a political one.

It is therefore rather striking surprising that music per se is silenced in alternative June 4th events, especially as music has been a core part of annual protests in Hong Kong and the recent Umbrella Movement. Yet, as Kertzer himself points out, symbols have "…A history of cognitive and emotional associations" (Kertzer, 1988:92). At a time of socio-political upheaval in Hong Kong, the mainstream June 4th ritual has become a focal point of political contention; a synecdoche of competing, divergent political discourse as activists, their supporters, law-makers and media commentators contemplate Hong Kong's political future, and negotiate political identities, affinities, collectivities and strategies. As the political fora seek to legitimise a localist retelling of the cultural memory of the Tiananmen Square Incident, it is perhaps unsurprising that music, a significant component of the symbolic content that makes the mainstream Candlelight Vigil so compelling, is markedly dispensed with. When those historic and emotional associations which shape extra-musical meaning fall into contention in times of socio-political change, people can – and do - take an agentive role in stopping the flow of music.

Tertiary sector student unions are the forefront of debate that seeks to redefine how the Tiananmen Square Incident is memorialised; to recast the meaning of the massacre to articulate with a localist political orientation. In the forum described above, as with all other alternative June 4th events, organisers generally shun dramatic spectacle, ceremony and ritual symbolism. The wholesale dismantling of Hong Kong Alliance's ritual structure at alternative events demonstrates ideological distance from mainstream anti-Communism, whilst marking a break from modes of protest established and organised (in large part) by those traditional pan-democrat moderates who set the political compass of annual rallies every 1st January and July, and the mainstream June 4th commemorations. That a staged political forum replaced choreographed ritual performance as an apparently more efficacious and pragmatic mode of political mobilisation is in itself rather telling. Political fora on June 4th points to continuity of practice from the Umbrella Movement. The melee of human voices mixed with the buzz of loudspeakers, a major part of the soundscape within the occupied zones, arose from the many makeshift spaces and platforms from which a wide variety of speakers discussed the political future of Hong Kong.

Conclusion

While much cross-disciplinary scholarship on resistance music has addressed key issues of identity, representation, documentation and agency, interactions of cultural memory in resistance music performance have been largely neglected, in spite of the agentive possibilities this dynamic can entail. More research is warranted on the cultural dynamics of cognition, social performance and cultural memory in the realm of politics. This case

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17Garde-Hansen (2011:20) on Henri Bergson (Bergson, [1896] 1991:86-91].

study shows, however, that just as processes of socio-political crises/schism can inspire cultural production and/or creative appropriation of mass culture, it can also motivate changing attitudes/orientations to established protest practices, performance modes and music as aural symbolism by various political corporate affiliates in pursuit of legitimating their purchase over narratives of political history.

Since socio-political factors condition the receptivity of music as resistance, analysing the treatment and reception of music as resistance can yield insights into cultural memory as contested terrain over political agency - how societies remember, what they remember, and who they are remembered by. How the past – part remembered, part invented - serves the social and political needs of the present.

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25. Strana Lektiri, Voicing and Cut-Up Tragedy: Some reflections about feminist epistemologies, sound creation and the gendered allocation of space.

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Abstract. This article aims to present a reflection about three projects, considering the creative process and discussing its relations with feminist epistemologies. The concept of situated knowledge and the connections deriving from it are central to the theoretical approach, presented here in a gender studies perspective. Considering the gender frames as generators of, and generated by musical frames, the work proposes a deconstruction of concepts like voice, authorship and of the limits between performance and composition.

1   Introduction: On feminist epistemologies, frames and spaces

In this article, we discuss reflections on and linkages between feminist epistemologies and the Strana Lektiri sound creation projects - Voicing and Cut-up Tragedy - by means of their relations with listening, creative processes, performance and sound recordings.

The studies about music and gender and the feminist epistemologies have been devoting attention to the deconstruction of the socially imposed concept of what it is "to be a woman", also questioning that single, monolithic "being a woman" in the fields of music and musical practice.

As for the musical practice specifically, Lucy Green notes that "according to their musical involvement, women have different social considerations, tracing different levels of acceptance and threat to a supposed and imposed concept of femininity" (Green, 2001: 24). Women who sing would be affirming such concept of femininity: the social imaginary associates the body exposure to a detachment of the intellectual capacities. Women who teach music are also considered affirmative of their ideal femininity: they care for other people, which can be seen as an extension of maternal activities - an activity also considered as detached from the development of an autonomous intellectual work. In this author's perspective, there is an intermediary place, occupied by instrumentalist women, partially transgressive of this conventional ideal of femininity. Women composers and improvisers would transgress this concept, through the development of an autonomous intellectualised work.

Whereas the established canon conceives male work as creative and propositive, femininity is seen as contradictory: desirable and dangerous, convenient and tempting; it

possesses, in the social imaginary, the element of danger and transgression. In the social constructions of masculinity and femininity, those characteristics may be adopted in a higher or lower degree both by men and women, as highlighted by the author. Despite the binarism indicated here, our concern is to observe the difference between genders which places body and intellectuality in opposite poles, and the way it is expressed in the field of musical practice, in terms of interpretation and creation.

The systematic absence of female composers in the canons of repertoire, bibliography and in the examples studied in the formal music education leave women with no reference or models in which to mirror themselves, setting up a very unsubtle way to convey the message that they are not welcome in that kind of activity.

Although there are not clear intentionalities that prohibit the presence of female composers, their absence is effective and the prohibition is delimited in a more overwhelming way the more it is concealed, since it is set in a normalized and naturalized manner, seen only as "the way it is", with little room for questioning.

The discussion presented here ties in with the context of the reflections about music and gender, feminists and post-colonial and de-colonial queer, which take into consideration aspects of gender, race and ethnic group as social markers and definers of a place of speech. Therefore, we do not articulate a single femininity or feminism but plural approaches that can take into account various types of women, each with her social marker, which go far beyond an imagined unit of gender.

Margareth Rago also highlights the importance of the feminist epistemologies as a lens to view the world, noting that they don't seek just the inclusion of gender relations, but the questioning of the very process of producing knowledge, built from relations of power, privileging the rational processes instead of the subjectivity, considering certain actors, environments, and documents as more valid than others. The possibilities feminist studies open are not limited to the inclusion of female subjects, but seek to offer a new vision, by inserting the notion of subjectivity and situated knowledge. Therefore, proposing a thought that thinks itself as postcolonial, situated, and feminist requires not only an effort to include new characters in a story told in the same way, but implies finding new visions, a new focus, new lenses to tell the story. It is necessary to consider aspects such as the historicity of the concepts, cultural relativity and the co-existence of multiple temporalities (Rago, 1998: 10-12).

The post-colonial and de-colonial focuses lead us to think critically about the frames that delimit our place of speech, and our social and gender markers as the first political stance. That reflection includes the frames that mark out the musical structures, limiting that which can be recognizable, for example, as song, as electroacoustic, experimental, popular or concert music. Very essentially established, but learned and cultivated, these forms and markers intertwine with the body, the same body Green pointed out as being opposed to the intellectuality inside the recognized (or recognizable) ideal of femininity. As Butler observes:

> It is not possible to define first the ontology of the body and then to refer to the social significations the body assumes. Rather, to be a body is to be exposed to social crafting and form, and that is what makes the ontology of the body a social ontology. In

other words, the body is exposed to socially and politically articulated forces as well as to claims of sociality - including language, work, and desire-that make possible the body's persisting and flourishing. (...) The epistemological capacity to apprehend a life is partially dependent on that life being produced according to the norms that qualify it as a life or, indeed, as part of life (Butler, 2015: 15-16).

In this way, the possibility of understanding the body as the place of social significations and gender constructs, and those frameworks as doubles that contain their specific limitations and that, at the same time, encompass their capacity of rupture and to experience mobility, points to the question that "the framework in circulation has to break up with the context where it is formed if it wants to get somewhere else" (Butler, 2015: 25).

Still on body and collectivity, bell hooks, theorist who approaches the feminism of the difference, highlights the importance of the interlocution between theory and practice, observing that: "when our lived experience of theorizing is fundamentally linked to processes of self-discovery, of collective liberation, no gaps exist between theory and practice. Indeed, what such experience makes more evident is the bond between the two – that ultimately reciprocal process wherein one enables the other" (hooks, 2013: 85-86).

The present work is developed by seeking a dialogue between theory and practice, regarding the concepts of situated knowledge, the discussion of the body and its dynamics with the space, and problematizing the voice as a significant of a symbolic ideal of femininity.

2   On sound creation and its outcomes

The three projects presented here, Strana Lektiri, Voicing, and Cut-up Tragedy have been developed by two composers, artists and researchers coming from very different paths, origins, and academic educations. The sound exchanges focus on experimenting with voice, text, sound, and fragments found on the streets. The voices are added to field recordings from different cities and other layers are created live: improvisations with effects that can multiply a voice, mix and transform its gender. These are compositions wherein the authorial and gender boarders are blurred, where composition and performance constitute the same practice. They are inserted at the conceptual framework proposed by Judith Butler when she considered frames as social constructs.

Strana Lektiri is the project in which Isabel Nogueira and Leandra Lambert meet to carry out sound exchanges based on those principles and experiences. In Voicing, Nogueira's solo work, the same principles are present and interact in order to propose a deconstruction of the idea of song based on piano and voice, transformed and modified, and on electroacoustic sounds, moving away from that presumed ideal of femininity.

Fig 1. Isabel Nogueira and Leandra Lambert live at the project "Dissonantes", at Ibrasotope, São Paulo, Brasil, 2016. https://soundcloud.com/strana-lektiri

As the third project, Cut-up Tragedy – Lambert's solo work – is approached, some questions on listening, urban spaces and women's artistic practices arise. The project's methodology-process, based on sound/texture/visual cut-ups and on the experiences from the streets, from free walks through big cities, from lonely drifts – was adopted in some compositions by both artist-researchers. It makes use of variations around the cut-up technique, collages and overlapped layers, overlaps the text found in a city, relocating it to another: in sounds, in the written and spoken words, in image, noise and silence. It conceives the voice as a body that stretches in space, the text as an extension of the hands that tattoo the cities, vestiges of bodies that go by, punctuating the experience of tragic times in loops of meaning.

The compositions-impromptus-performances are then conducted on the basis of field recordings made during walks and drifts. These recordings are edited, processed and reprocessed until the point when they generate drones and a "wall of noise". The voice is improvised and processed live, reading or singing in Portuguese, English, French, and other languages and lay glossolalia – often using automatic translations that generate unexpected mistakes, then incorporated into the original text. The text is composed in part with the cut-up technique: in this case, built with words found on walls, newspapers, sidewalks; or describing, in fractured narratives, scenes that were seen, heard and experienced in these walks.

The three projects have in common the experimentation with the voices of the performers-composers, once more questioning that normalized place of the female singer, of the female voice as a non-intellectualised expression opposed to musical composition. As for

the procedures for using the voice in the musical creation and its multiple possibilities, Holderbaum and Quaranta observe that:

> Some authors have delimited a typology about the utilization of the voice, generally listed about vocal elements such as: relations between spoken voice with semantic content and syntactic organization (with codified information, possessing referential, extramusical content), and the voice as a sonic element, non-referential, possessing musical characteristics such as timbre, pitch and rhythm. Other relevant factors in voice composition exploration refer to the recorded voice as opposed to the performed voice, to the utilization of vocal elements with phatic function, and to the totally improvised sound poems as opposed to the ones written in a specific and precise way (Holderbaum and Quaranta, 2013: 5).

In addition to the use of the possibilities mentioned above, in this work the texts are also frequently composed as poetic fables around a brief scene that was seen /heard/recorded/photographed in a city, also having as reference the flâneurs and ramblers from other times, as well as the travelers and city imagineers: Baudelaire, the Rimbaud of Illuminations, Benjamin and his Arcades Projects, João do Rio, Débord, Calvino's Invisible Cities, Burroughs and the Interzones and Cities of the red night. Thus, the performance is structured around these references, over the recording, interspersing both processes.

Fig 2. One of the photographs taken in strolls by Leandra Lambert, from the "Cut-up Tragedy" project, 2014-2016. https://soundcloud.com/cut-up-tragedy

At the same time, that listening of the urban space is set as a nomad listening, as Fátima Carneiro dos Santos points out, based on concepts by Deleuze e Guattari:

As it operates in this flexible immateriality of the sound, music and listening are rather fluid and free, never retained by the thickness of the material or by the limits of the medium and, because it presents only speeds or differences in dynamics, this music develops through rhizomatic connections and, as a rhizome, it leads us to go through it, freely connecting one point to the other, with no fixed path. Its entrances are multiple and open, and the relation among its elements takes place through free connections, not hierarchic ones (Santos, 2000: 67).

In that sense, the use of noise and its limits standout. The noise defies the common sense view of what is or is not music, of what has or does not have meaning, of what we can and cannot bear, tolerate, accept; it is always presented as an undeniable interference and a challenge. As Campesato points out:

Maybe the most significant characteristic of the noise-music is the fact that it works with and in the limit. In several examples, one can notice the persistent attempt to deal with that which lies in the limit: of the pain, of the body, of the equipment, of experimentalism and even of art itself. It is a practice that aims at the ecstasy by means of the excess, of the extrapolation of limits (Campesato, 2013: 2).

From the experiences and exchanges between the two composers-performers and researchers of different backgrounds, questions on the implications of these processes and of reason, among so many other historical references to walkers, poets and chroniclers, only male names have occurred. The exception concerned the very recent practices involving soundwalks, recording technologies and practices of contemporary, conceptual, performing and sound art, or the underground from the 1960's and the 1970's on. Some very distinct examples: Hildegard Westerkemp, Yoko Ono, Janet Cardiff, Laurie Anderson, Patti Smith and Lydia Lunch. Before the rise of feminism and of the counterculture, women who adopted the city streets as one of their privileged spaces for experiences and artistic practice were not exactly a possibility. In the 1950's, there are records of beatnik women - who had never had the same possibilities as men such as Ginsberg or Kerouac - who were hospitalized as mentally ill. Making use of the streets as a theme and their own territory for intense experiences and the practice of art and of writing had a close relation with madness (Lambert, 2016).
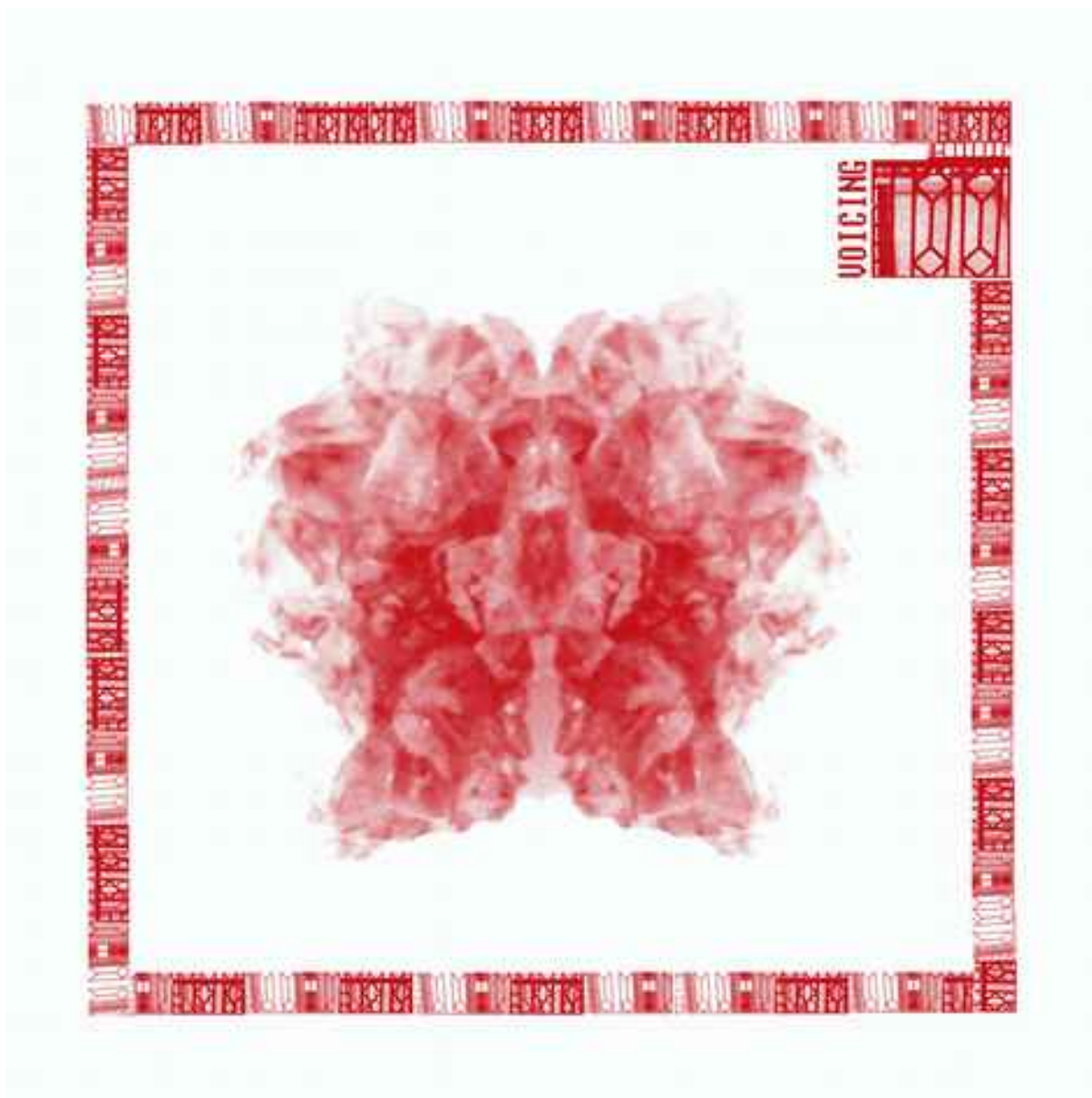
Fig. 3 Album cover for Isabel Nogueira's "Voicing" release, by Seminal Records, Brazil, 2016.
https://seminalrecords.bandcamp.com/album/voicing

Despite that observation, Sueli Carneiro mentions, emphasizing the idea of the need to notice the differences within the feminism, that black women are part of a "contingent of women who worked for centuries as slaves plowing the land or in the streets as vendors or prostitutes" (Carneiro, 2003: 119). However, it is worth noticing that being allowed to be in the street is not enough: the street does not qualify as a safe place for black women. On the contrary, being a street vendor or a prostitute is a radically different position from that of the man who walks where he wants, of the flanêur who enjoys the city in his leisure hours, of the man who can choose and pay to enjoy a female body he selects as a product. The streets, in this case, do not qualify as a space of creative autonomy either, but primarily of the fight for survival in precariousness.

As for occupying urban spaces, the social imaginary presents a clear veto: every time a woman is somehow attacked, specially when she is sexually abused outside the home, a device of victim blaming is triggered, condemning the way she was dressed and the very fact that she was walking alone on the street. The concealed message is expressed as: the street is not for women, you do not belong in public spaces, female bodies and voices should not appear or have meaning beyond their functions in relation to men, the place of women is at home, her space is private, domestic, controlled, restrict. Domestic space which is normalized, built and organized to be depoliticized, placed outside the sphere of the decisions of social considerations and of cultural participation; a space that perpetuates as the place of domestic violence, turning the feminine condition into a loop of vulnerability and culpability where bodies are "bodies that do not matter" (Butler, 2015: 16).

With all the evident contradictions and incoherencies that the facts show, the reality remains that the experience of walking freely around the city and of writing and expressing in any other way their impressions of it usually come from men. The movement of women is historically regulated in different degrees and restricted to spaces that are considered safe, generally domestic spaces. In fact, it can be dangerous to walk alone around the cities, specially at night, as it can be dangerous to live with a familiar aggressor. What is the threat, the space, the aggressor? That which is intended to be regulated, controlled and subdued is not the aggression, the crime, the aggressor: on the contrary, what is intended to be subdued is the female body, its voice, its presence and the range of women's experience. The question of mobility related to gender is also a political question: "Gendered allocation of space, however, has a sweeping relevance and the desire to limit women's space is not peculiar to one culture or another. Sanctified by notions of beauty, desirability, safety, morality, or religion, many cultures have restricted women's mobility" (Milani, Neshat, 2001: 9).

Thus, we presented here some of the propositions of the feminist epistemologies with sound creation, through the ideas of urban mobility and space occupation; the presence of the female body not detached from intellectuality, expressed in creative, critical works; the feminine vocality developed in its multiple aspect, emphasizing the voice-sound combined with the voice-meaning; and the idea of situated knowledge which is articulated through nets.

3   Final considerations

Based on these considerations, we turn our approach to the research and creation related to the narratives, knowledges, artivisms, poetics and epistemologies of women in their experiences of voice and urban, setting the public space as a place of belonging, transit, political and social practice, in which they live a significant part of their lives – without the need of male care, watch and control.

Such practices can include works of public art to the speeches of "funkeiras" and MCs, from sound walks to literary narratives, from experimental musical creations to activist performances, from photographs and paintings that portray this reality and are exhibited in galleries to graffiti on walls.

In this space of mixtures, women reconfigure themselves, intertwine themselves in their hybrid nature, connecting to Gloria Anzaldúa's concept of mestizas: "indigenous like the corn, the mestizas are a hybrid produce, designed to survive in the most varied conditions" (Anzaldúa, 2005: 708). The idea here is not to transplant to the Brazilian reality the border and chicana consciousness proposed by Anzaldúa, as Rosa and Nogueira point out: "in this logic of racist whiteness and pigmentocracy, though in distinct places (South-Southeastern), we are equally privileged as white women, which does not unite us in the sense of equality with non-white, black and indigenous women," (Rosa and Nogueira, 2015: 37).

This work is done by means of the transformations among sounds, noises, vocalities and their resignifications, of the creation of loops of meaning and of the discussions raised by feminist epistemologies. It is therefore structured in the scope of the listening and seeing experiences that turn into places of speech, places of voice – as it expands that concept into the places of the city.

Fig 4. One of the photographs taken in strolls by Leandra Lambert, from the "Cut-up Tragedy" project, 2014-2016.

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26. Curitiba Sound map: an affective cartography of the city I live.

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Abstract: From the traditional teenager diaries to the habit of adding geolocation metadata to any type of media, the record of personal paths becomes increasingly refined and connected to a global and virtual context. Tools developed and provided by *Google Maps* and *Google Earth, for instance,* map the space with precision and provide increasingly complex ways to "see causes and storytelling." The possibility of navigating through each time more realistic maps and exploring the World without leaving the place is fascinating. In this way, the maps keep preserving their traditional *status* as functional documents containing truths. Although they are originated by a visual tradition in designing reality, searching though the web it is possible to verify a proliferation of sound maps from the first years of 2000. In general, these initiatives aim to turn audible certain sounds that would show the sence of place through field recordings usually done by a designated team for this purpose or by spontaneous collaboration. The criteria for carrying out the recordings, however, tend to an aesthetic positioning or to an intention of "preserving" an immaterial heritage alike.Within this panorama, I propose to present the *Curitiba Sound Map (CSM)*, launched in April 2016 - an initial mapping project converted into a contemporary cartography based on the account of people with different profiles and ages, highlighting an affective dimension for everyday sounds through experiences and oral testimony of people spread across all main regions of Curitiba, the city I had been living for some time. Following these audio recorded reports - later fragmented and geotagged on a virtual map of the city - ambiences and sound events were captured and, similarly, geolocated on that platform, forming one of its layers.With the presentation and discussion of this project, I would like to encourage the creation of cartographies based on aural experiences, exposing reflections that came along the realization of the project.

Keywords: Soundmap, cartography, field recording, place, memory, aural experience.

1   Introduction

Mapa Sonoro CWB (a.k.a. Curitiba Sound Map or CSM) is a project focusing on everyday sonic events in Curitiba – the capital of a southern state of Brazil, where I've been living since 1998 – in its affective dimension, throughout experiences recolected from the past and reflections based on everyday events. Although focusing on community collaboration through interviews, workshops and group soundwalks, it has also an artistic approach in its way of dealing with data and raw materials. This article is an attempt to share some thoughts about the questions and insights that emerged in this process.

Back in its roots, *CSM* started as a cultural heritage project seeking to research, collect and preserve sounds that could be significant for the local cultural identity. The online map was chosen as a medium for displaying the results and function as a digital repository, geotagging sound samples in the locations they would've been recorded.

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The use of maps in that way, as found in many of this growing type of virtual platform, would follow the traditions from a representational thought of mapping. As a common vision from that tradition, it is usually accepted that mapping is a process of organizing spatial phenomena as faithfully as possible, with the help of an abstract representation - the map. Since the Middle Ages, the maps maintain a status of artifacts that present truths, representing the world with the help of graphic techniques in favor of incontestable objectives, such as navigation, war and regulatory territories.

If we consider maps through a representational paradigm, we may find that the world represented can be quite homogeneous in many sound map projects. A problem that comes out from that approach, for example, is the predominancy of a gender or certain economic profile[2], according to Jacqueline Waldock[3] (2011). When examining some of the most known soundmaps, it's clearly stated that these practices are predominantly taken by males. Thus, "what is being constructed, in many cases, is a male-dominated record of sound, an insight into the significance of sound in a male-dominated resource".

As some of the sound mapping practices critics state, a power retorics also can be found in many mapping processes, specially if we look at them as an 'auditory archive of an environment' (Montreal Soundmap). Such criticism is align with questions introduced in the 80's within the cartographic sciences[4]. In this break, the maps were released as social constructions, strengthening up of interest and calling authorities, discourses and ideologies. Following this line of thought, Harley (1989) highlights the selection and persuasive character of all mapping processes, imbued with values and judgments of individuals envolved, as well as reflections of culture in which they live.

According to Kitchin et al. (2009), thoughts such as Harley's and other geographers have provided the basis for what is called critical cartography[5]. In that criticism, maps would be texts, discourses and practices that emerged in opposition to an empirical search for a verifiable generalization and would call for a diversity of production and use. For some theorists, critical cartography moves toward a post-representational thinking (Kitchin et al., 2009) - an important context of changes in visibility schemes, where maps would be addressed as graphical tools for organizing and representing processes and statements[6] that operate against hegemonic categories of representation. Today, we see a proliferation of virtual maps as micronarratives' interface that provide data collected by individuals and communities to tell a story or solve a local problem[7].

2The use of expensive equipments, such as binaural microphones, is a very popular approach used in the recordings found on those maps, according to Waldock.

3 A sound artist and researcher focusing her work in soundscape composition and sonic etnographic practice.

4A major disruption to representational thought would be presented by the cartographer and geographer Brian Harley, which relates the map to a rhetorical text, since all the steps to create the map would be inherently rhetorical (selection, omission, simplification, classification, creating hierarchies and symbolization). (Harley, 1989)

5An avowedly political cartography in its analysis of mapping practices, deconstructivist of spatial representations in the world and science that produced them.

6According to cultural and historical geographer Denis Cosgrove (2011), surrealism and situationist practices can be considered the first artistic movements explicitly engaged with mapping as a process and the map as a communication device for subversive practices performed to disrupt - or remap - hegemonic categories of cities' representations.

7For more information, resources and examples, here it is a virtual platform for creating ArcGIS maps - http://storymap-s.esri.com/home/

Playing a similar role, many sound practices are exploiting mapping processes that take changes in the relative positions *in* and *with* the environment, or that even seek to establish a labyrintic dialogue with ordinary spaces, as many soundwalks do[8]. Such practices are distinguished from field records present in mostly sound maps that, despiting deeper issues about fidelity and representation embbeded in field recordings discussions, are essentially framing a spatial area with a fixed point of view. What these practices put in evidence, from a geographic perspective, is the idea that what we "see" is a contingency of positions we occupy (Gomes, 2013: 20) - a paradigm that draws attention to the importance of contextualizing a point of view (or listen), whether it is translated in a recording of a sonic landscape or event.

Under the influence of the post representational thinkingin this project was redirected, focusing its production on how different people perceive and signify the sounds of their everyday life, in relation to a particular social-spatial position. In this overview, we summarize some of these contemporary cartographic notions[9] as follow: i) maps do not represent reality, but have an active role in its social construction; ii) the maps operate functionally showing the invisible as it interacts with its signs; iii) maps are mutable objects whose meanings emerge from socio-spatial practices; iv) the maps precede the territory, and the space becomes territory through practices such as mapping.

2   Sound images: recalling sound memories and experiences

Oral history and personal accounts

The word, even descriptive or narrative, is a recurring form of cartography, producing singular realities from individual perceptions. As Marc Augé reminds us, the place is completed by words, "the alusive exchange of some passwords in the connivance and complicity intimacy of the speakers" (2012: 73). With spoken words, Studs Terkel - known for his long career as a broadcaster and writer in Chicago – traces a kind of critical sound cartography reporting the major social and cultural changes in the USA in the twentieth century, covering topics such as immigration, the effects of 1930s Depression and World War Two, through recordings of extensive conversations and interviews with Americans of different profiles and "walks of life". The oral histories made up his radio program "The Studs Terkel Program," which aired from 1952 to 1997 in Chicago's fine arts radio station WFMT, in addition to his "oral history books"[10].

To map sonic experiences in Curitiba through personal and multi perspective accounts, I started collecting aural narratives during 2015 in a similar approach, interviewing and recording 28 persons that would've been living in Curitiba for some time, as a primary filter. Other criterias for selecting participants would follow the need for different outlooks, leading to choices of distinct professional profiles, ages and origins. These reports have, therefore, memories, observations and reflections of men and women aged from 30 to 105

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[8]Practices such as soundwalks within a humanistic geography context were my focus of investigation for the Master, available at:

[9] Based in Dodge et al. (2011).

[10]*Conversations with America* is a collection of audio samples of interviews conducted by Terkel for his programs and books, available at: http://studsterkel.matrix.msu.edu/index.php

years old from various professions and interests. They also manifest the perception of particular accounts of soundscapes from all the main regions of Curitiba, from the perspective of who lived in there for a while.

In this path of spoken reflections, fueled by insights on the fly, the inherent filters that naturally operates in the act of remembering were embraced as part of the process, such as the lost in the flow, the reinvention of events and the maintainance of some memories. As a general orientation for those reflections, I would ask them to refer to specific locations as possible as they could, considering that the link to an environment, either temporary or permanent, significantly ground the personal construction of giving meaning to the sounds around us[11]. The sounds, then, would be "reference values" with many meanings, created from personal experiences.

My first inquire on the interviews was about the person's earliest aural memories, or aural impressions by the time they moved to the city in case that person came from another place. The earliest sound impressions evoke a welcoming city. "Silent" was a recurring impression of those who came by to Curitiba. Although being a very broad and subjective concept, intensily explored in the musics aesthetics and sound art field, in this context, it simply seems to reflect a socio-community contrast perceived when comparing the new city with previous cultural landscapes. On the other hand, the usual soundscape of a big city's imaginary, full of traffic and urban sounds, also figured in the first impressions of some participantes. We do not refer here to the idea of "noise" - a concept that, like 'silence', is very profuse, but, in general, consistent in the idea of an unwanted sound. The city noises, in the memory of many respondents, were not unconfortable instead. Partly, because they were related to a new lifestyle, adopted as a better option than previous ones.

The early aural memories on the city are related to childhood experiences. In that period, the street was the most recurring place of social experiences. The street, as a shared space for those kids, was a stage for encounters, for playing and observe curious things about the adult life. In this scenario, the sound design was framed by the physical and cultural characteristics of the neighborhoods in past decades (different periods between 1960 to 1990, when the majority of respondents lived his childhood): low or non-existent car traffic would not mask[12] the sounds of the street and those produced by kids as it does nowadays; the topography of the streets and sidewalks was harnessed to the game "bet", the rolemã carts and later, the skates; there were more wastelands, used as pitches and games sites, and less buildings and homes to reflect the sounds or cover up the view. On the street, it was common to hear the striking palms of friends - rustic correspondents of bell rings - or mothers crying in front of the gate - the sound code equivalent to the last signal to return. There were also the memories of sound signature from hawkers, nostalgic soundmarks of a recalled street, where it was important for survivance to pay attention to human sounds produced on it. This street of memories, as the forest for the indians - who

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11According to Lutwicz (2012), that would explain the aural memory.

12*Masking* is a sound effect in which the presence of a a sound partial or completely covers the perception of another sound due to its intensity or timbre characteristics. On the everyday, this effect can be easily noticed in high traffic sites, where the sum of the car noises create a kind of white noise - a sound mass with dense and disorganized spectrum - muffling the perception of more subtle sounds like voices and the singing of birds. The sound masking, however, may cause a psychophysiological subjective reaction: it can be judged both as a parasite or as favorable, depending on whether it is covering up a sound perceived as pleasant or not. (Augoyard, 2009: 66)

develop a hearing acuity in the thicket – is perhaps more utilitarian than today's: an extension of the house, passageway, the meeting place for exchanging information and purchase of goods.

Among the various ways in which a community can be defined - as a political, geographical, religious or social entity, for instance -, Murray Schafer proposed, in addition, the acoustic one. The house, from this perspective, could be seen as an acoustic phenomenon referred to the first community - the family. "In this comunity, private sounds with apparently no interest beyond its walls, would be produced", with however, inquestionable affective value for that comunity. The sounds of a remembered childhood also took into account those private sounds in a domestic sphere. In those memories, musical experiences in the family environment was a constant and recurring image, always accompanied by a smile. Remembering the parents' favorite LP records, the songs played by the local radio stations making company in days of solitude, the repetitions of the family's weekly music playlist and events, musical instrument practices for instance, were undoubtedly the more fluid times of the interviews.

Such resourcefulness, however, was not so present when talking about other sounds that anchored, at home, the cotidian cycles, but still many precious images arose, such as "the hubbub of the fair stands on market days", "the washing of liters of milk glass", "the pressure pan noise before lunch", "the sound of chickens present in the backyard of many houses on those days", "the characteristic sound of zinc buckets that were like poor bells", in preparation for the tradition of washing the family's tomb at the cemetery... However, in the apparent triviality of the inquiring and even with the inherent difficulty of tracing a path perhaps never traveled before, many memories would emerge when getting in touch with other's reports:

> I loved the idea of the sound map. But I want to talk about the sounds of my memory that no longer exist and that spoke of a Curitiba from my childhood: the nostalgic sound of the whistle of Gloria tannery, at Mateus Leme St. in Abranches neighborhood in the morning, at lunchtime and at the end of the afternoon; the sound of the whinch and the beating of wings of hundreds of vultures that inhabited the discharge area of the same industry, when startled by the arrival of the cart with the remains of more leather flaps that were they joy; the sound of metal belts and the clink of bottles hitting each other in the bottling of wines Castelo from the Rio Grandense Winery, which was on top of a hill in front of the tannery; and every evening, the bangs, bizarre as a cannon at a distance from the explosions held in quarry Gava, where today shines Pedreira Leminski[13]. Ahh, the sweet Curitiba from the 1950s and 60s, a town of 600,000 souls that was gone. What only remain was the enigmatic eagle over the building of the former [bakery store] Lancaster at Zacarias Square. Regards, Pedro Guimarães, Matinhos, PR.*/*

That was one of the messages sent to the online platform of the project, where all the narratives were layered in different category themes and displayed as geotagged audio samples. With no doubt, the subsequent "feedback" effect caused by getting in touch, somehow, with the project and its reports, has been one of the most valuable post results.

Everyday sounds

Following, I would inquire about everyday sounds of the places the participants lived, worked or simply enjoyed being at. Many sites felt as pleasant places to the respondents

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13*Pedreira Leminski* is a desused quarry that holds, nowadays, big events, shows and concerts.

were those in which the 'biophony' (sounds from a biological source) was more noticeable. Those places were like nature islands in urban spaces, such as parks, where the soundscape has, for many ears, a richer variety of timbres: besides the biophony, the geophony (natural sounds emanating from non-biological sources, such as wind and water) and antropophony (sounds of objects created by man) (Krause, 2008) also could be clearly heard. In the parks cited by respondents, the typical sounds of urbanity, like car traffic, human interactions and noises from electrical equipment, are all present. However, they easily pass to the background of auditory perception[14], thanks to the geophysical conditions and manifestations of nature in the foreground. The relative silence, experienced in the contrast between an environment with a lot of background noise and the shift to a place (or situation) with more subtle sounds is also named as a feature of pleasant places. For one of the participants, the visually impaired musician Wagner Bittencourt, the sound of parks is nice because it contrasts with most places in the city:

> Most of [these places] have a lot of echo, 'reverb', car sound... In Santos Andrade Square, for example, car sounds are all over the place, the building's sounds around, it's boring. When you go to a park, you have grass, trees, then the sound propagates in a very different way. When you go to parks in Curitiba it is a different sound experience than when you are in town. As the Tanguá Park, which has that huge rock wall, the sound of water falling, it doesn't have all this reverberation of the city [...] Next to The Pope's Grove there is a coffee shop, a wooden house. Wooden houses in general have a different sound. The acoustics with wood is very different; wood has a softer sound, it seems that the sound gets more equalized, less strident, it doesn't have all the reverb... I feel more comfortable in these places.

What those places provide, translated in a sense of sonic confort, may be associated with the possibility of providing the ears a more subtle, clear and wider acoustic repertoire, because of the sonic effects provided by the environmental characteristics, as stated by many authors related to the acustic ecology as hi-fi environments.

Subjectivity and Polysemy – annoying sounds and the aural treasures

> That noise created by a lot of people talking at the same time in a closed place. The murmur that is getting louder. A sound, a very loud music that forces one to speak louder than the sound. Hearing the sounds of neighbors in the building. (C. Ferraz)
>
> Reactors of cold bulbs in the office. (L. Nery)
>
> Nylon guitar. Flute. The test' sound of turbines at the airport Bacacheri. (Rodrigão)

After all, I would encourage the participants to talk about more subjective impressions of sound experiences, such as the annoying, unliked, wellness and pleasant sounds in any sense. In those talks, the polysemic nature of sounds could be clearly observed. The sounds that irritate some respondents please others and were often related to situations in which they occur, rather than to their acoustic characteristics. Sometimes, the hassle sensation was punctual - as an interloper chat; other times, the annoying sound became so familiar to the point of no longer being perceived or disturbing - as a noise fan from the

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14The "background listening", theorized by the composer and researcher Barry Truax in 1984, refers to the sounds heard in the background, creating a sort of backdrop for listening in the foreground. It occurs when we are not listening to a particular sound and its occurrence has no immediate or special meaning for us. However, there is the consciouness of those sounds. A plausible explanation for the sounds being heard in this secondary form would be a frequent occurrence or predictability; those sounds would be, therefore, expected, too familiar or repetitive.

neighboring apartment. In some cases, it is the psychoacoustic effect the responsible for the stress - as the hassle generated by sound loudness or some annoying frequencies, which occurs when we are at a bar with very loud mechanical sound or next to a group of excited screamy people, for example. In any event, however, the annoying sounds are related to territoriality experience and sense of intrusion caused though our ears. The unwelcome presence of a sound or group of sounds within a territory - especially private - creates a sense of violation of the personal space that seems to be intensified by a kind of invisibility status the aggressor/agression presents. The most excited reactions of people who got in touch with the project were observed in reports of their own experiences with intrusive sounds, such as that on the message received by the project's website:

> Sound map from the perspective of Curitibans? I just watched the tv news about this "research". All very nice ... traffic (center), birds ... etc ... But I suggest that you come and make this research here in my neighborhood Novo Mundo, precisely at João Maria da Silveira Street, on a Saturday afternoon or evening ... Then you will have a picture of Curitiba! Disturbance of the peace by loud music (usually funk), shots, cars "screeching" tires at high speed, a neighbor who has a deposit of dogs barking 24 hours a day ... kids making street riots until late at night ... and many other things, such as fights and fireworks celebrating the death of rival drug dealer ... Come, write and disseminate so perhaps this situation may change. Otherwise, I see no utility in making a "smoke and mirror" sound map.

On the other hand, the inquisition about the dearest and pleasant sounds lead to a collection of sound images that seems, now, like sound treasures. Rather by evocative familiarity - as the transistor radio turned on at home returning from school - or by the archetypal beauty - like the sound of the sea and wind - the sounds of welfare presented by the participants provided a remarkable repertoire, where in each image there was a short story and a personalized reason from a bodily experience.

> Students playing. The silence of the night. The birds in the morning. Guavas falling by the window in the yard at night. (V. Di Domenico)

> The applause on stage when the song ends. The lonely singing bird at dawn. The children of the family smiling. Loved ones, smiling. The peculiar sound of the ball in football games on Thursdays. (H. Bruchmann)

> The urban sound. The sound of the street, concrete, car, horn. The sound of urban silence. The heavy sound of rain falling on the ground. The first chord of a presentation. Social gatherings with music. (D. Agostini)

3   'Selfie' field recordings

The majority of the interviews were taken place in the participant's house or place of preference, which allowed me, also, to capture a soundscape of the person's cotidian. A natural emplacement was the option to not record inside the dwelling place as a way of preserving the person's privacy. For that reason, an ambience sample of the participant's home was shoot in front of the house, in a patio or varanda. All those recordings are part of a soundscapes' collection placed in the online plataform www.mapasonorocuritiba.com.br, where the virtual visitors can have a glance of apparently 'unimportant' everyday/ ordinary sounds that colors up individual's cotidian, like "a varanda in downtown", alongside with the sounds of public places and events like

"springtime, birds at dawn", "the express bus in action", "the street crying of a lottery saleswoman".

All those tracks were recorded with the minimum body intervention as possible in an ordinary approach of field recording for sound maps. In oposition to the contemporary practice of 'selfies', field recordings follow as a standard practice of recording an external object. The most common paradigmatic and spatial position in field recordings for sound maps is analog to the experience in a belvedere, where the spatial configurations operates in capturing the senses in a search for the most rich or interesting perspective (Nakahodo, 2014). Self bodily expressions are not usually welcome in those recordings and – what can be observed in choices about the way microphones are directed (body positioned in oposite direction to the framed objects) and a careful handing of audio recorders to not interfere in the recordings, for instance. When navigating through Montréal Soundmap, for example, even in categories that highlight the human presence, we realize personal neutrality through titles such as "Chinatown," "Mont Royal", "Jean-Talon Market." On a daily basis, as noted by Maldock (2011), "the large majority of the recordings are of something else or at least are tagged as something other and are always tagged in the impersonal: 'Church bells', 'Frankie and Bennies' and not 'my dog', 'my front room', 'my church bells'. Even when the act of recording and choices made occur from an "individualized frame" and state a personal presence, as in the [sample 0044 Lachine Canal][15], the sounds are tagged as observations of someting else and point the desire to capture the sounds of the other and not their own.

One of the sideprojects of MSC was the soundwalk workshops conducted in different communities from different areas of the city, designed for local people or groups with specific interests, with a one to two hour guided walking in the neighbourhood. In these workshops, individual presence and interaction were gradually incorporated and encouraged, in favor of a singular account of a bodily experience moving through places. The workshops were conducted as sightseens, where listening was the primary mode of attention for deepening the perception of the environment and for a reinterpretation of familiar spaces using contemporary cartographic strategies identified in sound practices such as soundwalks[16]. Such tools sought to explore a type of mapping that filosofer Edward Casey[17] conceives as "Mapping with / in: instead of a geographical portion, the mapped would be the way someone experiences the known world. Mapping a place, from this angle, would be a frame of what it feels to be on that place in a bodily concrete way.

Mobility and slow motion

In " Autonauts of Cosmoroute", Julio Cortazar chronicles the preparations and facts of a singular expedition by the famous Paris-Marseilles freeway. A trip that would normally take

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15As the description says: "Lachine Canal: Journéees sonores. There's Something under the bridge – An observation, made one evening in late February 2002. I have seen almost distressingly random objects abandoned on the ice under the bridge at other times—baby strollers, a single boot—but the coconut seemed worth noting. The other sound is in-dicative of the small sounds I hear in the winter along the canal—the wind in plastic bags hanging out of a garbage can or caught in a chain link fence, made soft by the snow and wind." (Source: Montréal Soundmap)

16In my dissertation I analyzed several soundwalks to indicatcartographyc strategies identified in these practices.

17Edward Casey, a phenomenological philosopher, in "Earth-mapping: artists reshaping landscaping", addresses the issue by discussing the work of contemporary artists who have a special sensitivity for romantic forms of integration between the mapping and landscape paintings. That way, proposes rethinking art as a form of mapping, distinguishing four basic ways of mapping of any kind: Mapping of, Mapping for, Mapping with / in, Mapping.

a few hours became an experience of thirty three days, as if following parallel paths to other passers-by and watching the events from an unconventional point of view. Stories like Cortazar's frame *time* in an opposite direction from the supermodernity spoken by Marc Augé: the *time* of a man who moves frequently and fast, but does not create roots; his experience and appreciation of a place is shallow and uniform. Even that "abstract knowledge about a place can be acquired in a short time if you are diligent, [...] 'feeling' a place takes longer: it is done with experience, mostly fleeting and little dramatic." (Tuan, 2013: 224).

In a spatially lesser extent, we proposed to the soundwalks' participants a similar approach to traverse the space, with the curiosity of a foreign look and solemn steps of a pilgrim. All the pathways, as well as all maps, reflect some particular body engagement, notes Casey (2005). Mobility, as well as a pace vagueness, figures as a major cartographic strategy in these workshops, where "no position in space ensures that all that is essential is being seen" (Gomes, 2013: 230), distinct from the made up selections that occurs in the auditoriums or "white cubes" in general. The eye and ear that travels on the streets does not know where the events begin or end, but as the director and star of his own film, it is only up to it to decide how, when, for how long and what to frame. In walking up the streets, the view is not fixed, neither the scenario; encounters and spaces take maximum visibility: on one hand put us on display "transforming any activity in expression even when there is not an objective" in this sense (Gomes, 2013: 185), on the other they are scenarios of information in excess that, in its automated reception reinforced by repetition, become invisible to the eye of those who transit over these spaces. An essential feature of mobility listening on the street is a multitude of possibilities, that emerges from different particular interests and individual sensitivity, interfering in the importance given to things (Gomes, 2013: 203). In one of the workshops, for example, one of the participants decides to go into a salon well known for her and the experience of recording a haircut is reported later as an interesting means of perceiving very subtle sounds in a new way.

Mapping with ears

Besides all the different backgrounds and places, one particular experience seemed to amuse all the participants: the targeted amplification of sounds promoted by portable audio recorders and listening on the move while recording them.

Those who have already record an environment know about what Hildegard Westerkamp refers when she says that the ears become more sensitive and intense while recording, encouraging the recordist to explore unconventional territories. Westerkamp yet compares the ears with the microphone: the first, with its selective nature, would contrast and complement the second, which way of capturing sounds would be non-selective but limited to its technical specificities. In many of her works it is quite remarkable the exploration of microphone mobility parameters such as proximity and distance and the angle relative to the sound source, which modifies the timbral qualities and sound plan. Such dialogue between the ear and the microphone was explored in adition to a second cartographic strategy, introduced as "mapping with ears".

It is noticeable in the resulting recordings of the workshops the exploration of different perspectives in search of the sonic qualities of objects and events. In one of the

workshops at a periferic and industrial neighborhood, for example, one of the participants reported us that she associated a close and familiar street to a place with the presence of many slippers, a lot of rubber squeaks she has never paid atention before, causing a certain amusement. At certain moments, the participants at the same workshop interacted with urban equipments, people at the streets, animals in pet shops, as if they were exploring a new world of sounds apart of being at very familiar locations. In another workshop, held in the city center at rush hours, one participant reported a certain pleasant sensation listening the low sounds from the buses that in ordinary contexts would cause hassle. Other participant reported the strange and fake impression of a busy street due to the invisible presence of too many voices that the eyes couldn't catch but the microphones would amplify and bring to the ears.

Psicogeography

The last strategy was related to the perception of subjective influences and perceptions of places, known as the psicogeographic effect. The psychogeography, a term coined in the situationist movement of the 1960's and 70's, would be the "study of the specific effects of the environment on the emotions and behavior of individuals". (Debord, 1958)
The project Bio Mapping designed by Christian Nold, in 2004, is one of several projects on the border of the visual arts and social sciences that illustrate the mapping as the process of creating a tangible vision of places as a result of the multiplicity of personal sensations through what he calls "new psychogeography". To Nold, this process holds interest for its combination of objective data (obtained with a measurement device that maps galvanic skin responses) and location data (GPS) with subjective stories (interpretation of the data along with the participants)[18].
In the soundwalk workshops, walks were preceded by a conversation about the purpose and the strategies to be adopted, following some general guidelines on safety, attention, interesting attitudes and aspects to observe during the journey, such as the transitions of soundscapes and the distinct sound identities of each setting space. After the walks, participants were encouraged to talk about the perceived psychogeographical effects caused by soundscapes and sound events, reporting the sounds that caused wellness or discomfort, sounds rememberd from other times (anmnesis effect - when a sound event or context evokes a situation or atmosphere from the past), the relation between sounds heard during the walk with the sounds of everyday etc.

4   Conclusion

Despite the diversity of employment, the maps always do the same, according to the artist and cartographic researcher Ruth Watson (2009): they are devices that incorporate, reaffirm and disseminate customizing places, telling stories of relationships that are important for individuals and for groups that tell them.

For this reason, cartography and maps can provide rich artistic possibilities considering some local level community engagement that according to Waldock , has been prevalent in soundscapes since the early work of the "Five Villages   soundscapes" by canadian

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18Such an interpretation together is described as crucial because, in this case the reading of the map itself operated as a kind of "trigger memories" of important events, participant variables to participant. The full project is described and available for free in ebook "Emotional Cartography: technologies of the self", available at:
http://www.emotionalcartography.net

World Soundscape Project[19]. In Brazil, it is worth mentioning the "Sound of Maré"[20], a participatory sound art project resulted from four-month workshops and field work at the Maré slums, which generated a sound art exhibition at the Museum of Maré and Soundwalks guided in park Flamengo. In Curitiba, the CSM project has sought to facilitate workshops with outlying communities of the city, as well as groups of varying interests, as a means of engaging different groups and feeding the online platform. In a partnership with sound artist and researcher Rui Chaves, a performance soundwalk was designed and conducted[21] through the central spaces framed in some reports collected for the CSM. In this performance, excerpts from the reports were read at targeted places to which they referred to, while sound events and ambiences samples from other contexts were played through a bluetooth speaker, seeking to provoque a deautomatization of perception.

Adopting a cartographic framework is reflect on a behavior that makes up a particular selection and judgment from a position in the space, in addition to consider a cartographic listening - one that positions us and maps the geographical environment, then provides clues on what to listen and how to be listened.

Although the representational approach is still commom through sound mapping practices, we can observe the proliferation of virtual maps as micronarratives, valuing and giving voice to personal and affective accounts of worlds. In all those initiatives, there is the desire to promote and comprehend the production of places through voluntary sharing of experiences about a certain theme or problem. The contemporary cartographies have been showing us the moviment towards an active role in the social construction of reality, sinalizing paths to reveal singular realities.

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19The implementation of school questionnaires and soundwalks that were integral to the methodology of this World Soundscape Project displays the public participatory approach that was common at the birth of soundscape research, acoording to Waldock (2011).

20For more information about this interesting project, please refer to the project's website Som da Maré: https://somdamare.wordpress.com/

21"Do Paço ao Olho soundwalk" was performed as part of the Música Nova International Simposium (SIMN 2016) programm, held in Curitiba. An excerpt can be be acessed at the online channel of project Nendú, an online archive about sound art in Brazil: https://www.youtube.com/watch?v=XHaOOj-f7MU

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27. The Technological Epiphanies of Samuel Beckett: Machines of Inscription and Audiovisual Manipulation

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Abstract: From 1956 until mid 1980s Samuel Beckett focused on the creation of a small group of works conceived specifically for the electronic medium of radio and television. In 1957/1958 he learnt the mechanics of the open-reel tape recorder and tits dissociative possibilities. This leads him to write *Krapp's Last Tape* his first *technological epiphany*. It was after that piece, and through the sound experimentation with the following radio plays, that Beckett focused his attention on language and velocity on its utterance. Beckett continued his experimentation with sound technologies that led to a whole new range of works in which the recorded human presence –voice, no-body– was transformed through this mechanization and he translated these findings into the stage, the television screen, and the cinematographic space. Six years after *Krapp* Beckett learned the mechanics of another machine for sound experimentation and the second *epiphany* takes place: he operates a *phonogène* –a machine used at the Pierre Schaeffer studios to make *musique concrète*– which allows him to decelerate and accelerate the speed of the actors' recorded voices, which led to the film adaptation of *Comédie* in 1966. From 1958 onward Beckett used sound technologies in his various explorations, which allow him to experiment with the mechanized voice, to experiment with machines as vehicles for the voice, and to experiment with the voice cut/separated from its source, both in the stage and in audio-visual platforms. Through these two *technological epiphanies* (1958 and 1966), Beckett was able to formulate diverse visual and acoustic experiences that are linked to the roots of electronic art.

Keywords: audio, radio, electronic art, sound art, sound technologies, Beckett, experimental.

1   Electronic Chronologies

The Beckett of this essay is the one from his first contact with sound as a medium of creation, the Beckett of the radio plays *All That Fall* (1956) and *Embers* (1957), of the first monologues recorded at the British Broadcasting Corporation (BBC) by Patrick Magee (1957), and of *Krapp's Last Tape* (1958). It is the Beckett of the radio plays after 1960: *Pochade* and *Esquisse radiophonique*, *Words and Music* and *Cascando*. Of the writing of *Play*/*Comédie* in 1962, of *Film* in 1963, and of *Eh Joe* in 1965 — his first piece for TV. This is the Beckett of the narrative experiment later converted into sound — *Lessness* (1969-1971) — and of *Not I*, the 1972 stage play reinvented for television in 1975. It is also the Beckett of the second half of the '70s, writing *Footfalls* (1975) and *Rockaby* (1979-1980) for theatre and *…but the clouds…* (1976) for TV. This is also the later Beckett of the second narrative trilogy *Company* (1977-1980), *Mal vu mal dit* (1980-1981) and *Worstward Ho* (1981-1983), the TV plays *Quad* (1980) and *Nacht und Träume* (1982), and *Quoi où* (1983) for the stage, radically transformed for TV as *Was Wo* in 1985. This is the Beckett who goes from the stage to the TV screen, from sound to cinematic space, from 1956 to 1985.

As a writer, Beckett constructed an oeuvre that displays a clear movement through genres, languages, and platforms. He began with essays, poems and narratives, then explored the scenic arena, and from 1956 on he added radio, cinema, and television as spaces of creation. This Beckett-writer was followed by a Beckett-translator who brought his plays in French into English and vice versa and who wrote versions of his plays in two languages almost simultaneously. After 1963 we also have a Beckett-director who is involved in diverse staging and productions of his plays and who, in his passion for exploring electronic media, recreated some of his dramatic and narrative work in the new audiovisual languages he was exploring.

The total corpus of works written by Beckett specifically for audiovisual media — if we stick to divisions by genre — consists of six pieces for radio[1], five for television, and one for cinema. The radio corpus features: *All That Fall* and *Embers*, whose years of composition are 1956 and 1957 respectively; *Pochade radiophonique*, very probably written between 1959 and 1960 (Pountney, 1988: 114); and three pieces that all date from 1961: *Esquisse radiophonique*, *Words and Music* and *Cascando*; the TV corpus consists of *Eh Joe* (1965); *Ghost Trio* written between 1975 and 1976, and almost simultaneously *…but the clouds…* (1976): and *Quad* (1980) and *Nacht und Träume* (1982); finally for cinema: *Film*, written in 1963. Therefore, Beckett's productions for audiovisual media could be read this way: from 1956 to 1961, radio; in 1963, film; and from 1965 to 1982, television. From one language to another. From one platform to another.

Beckett's audiovisual canon cannot be limited to the titles mentioned above. Where would we catalogue *Lessness,* a short prose piece dated 1969 and transformed into a sound-based platform in 1971? And how would we register *Play*, written in English (1962) and French (1963) as *Comédie* both for stage, but then adapted into film and radio in 1966? There is also *Not I*, written in 1972 and reconfigured for the TV in 1975. Shall we state, for example, that the TV production is just a surrogate? Or how will we list *Quoi où*, written for stage first in French (1982) and later in English as *What Where*, brought to TV language, but instead of being produced for the television screen, this same TV version was rather taken to the stage (Herren, 2007: 2; Ackerley. 2004: 640), and finally produced for TV as *Was Wo* in 1985?

These works were conceived for a predetermined platform, but when Beckett modified them to bring them to another medium — be it TV, radio, or film — he placed them under a process of re-creation rather than a process of adaptation. Beckett undertook a labour of reconstruction with surprising results, since what we have here are pieces different from their originals, created specifically for a platform dissimilar than the first formation, playing with the rules and specifications of the chosen audiovisual language.

2   Technological Epiphanies

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1 Regarding the pieces for radio we find diverse and at times contradictory opinions about which titles really make up this corpus, depending on the date of writing, production, or publishing.

The first *technological epiphany*[2] takes place on 28 January 1958 (Beckett et al., 2014: 98) when Beckett saw a reel-to-reel tape recorder in operation at the same time as he heard fragments of *Molloy* and *From an Abandoned Work* in the voice of Patrick Magee.

Despite the fact that Beckett wrote and sent the BBC his first work for radio on 27 September 1956, (Knowlson, 1997: 431) he kept himself, relatively speaking, on the margin of the production process. When the rehearsals and recording of *All That Fall* took place — 2 to 6 January 1957 — Beckett declined an invitation to attend, arguing:

> I should be very definitely less a help than a hindrance. I am very slow and go wildly and repeatedly wrong before arriving at something that resembles what I want. I'd only bother and upset you all. (Beckett et al., 2011: 688)

Being afar from this production process, Beckett could not hear *All That Fall* properly nor the subsequent sound recordings made by the BBC. Actually a day after it was broadcast on 13 January 1957, Beckett wrote to McWhinnie how little could be heard given to transmission failures (Beckett et al., 2014: 12).

When the BBC insisted, following the success of this first radio piece, that he provide them with another text, by way of an answer Beckett suggested to producer Donald McWhinnie that, given he couldn't immediately write another piece for this medium, they could choose fragments from the end of the first part of *Molloy* to be recorded and broadcast (Beckett et al., 2014: 46) and later on he added a fragment of an unfinished novel that would later be *From an Abandoned Work*.

Since once again he could not hear these productions clearly (broadcasts took place on the 10 and 14 December 1957), the BBC decided to send him the magnetic tapes of the sound recordings. On 28 January 1958, Beckett went to the BBC Paris studios (Beckett et al., 2014: 98) and listened "with the keenest enjoyment and appreciation" (Knowlson, 1997: 790 note 144) to the recordings in the voice of Magee. It was, moreover, the first time that he observed the operation of a reel-to-reel tape recorder (Beckett et al., 2014: 105).

It is at this moment in which Beckett has this magnetic tape recorder in front of him that he understands the machine's dissociative capacities: sound divorced from its source, sound as object, sound of the human voice as material with which to work — split off, in this case, from the body of the actor. And he goes on to write *Krapp's Last Tape*.

The second *technological epiphany* takes place during the process of reconfiguration of *Play*/*Comédie* for the cinematographic platform in 1966. Specifically during the audio design Beckett used a *phonogène*[3] that allowed him to modify the speed of the recorded sounds previously registered on magnetic tape without changing their pitch. As is widely known, Beckett was obsessed with the velocity of the utterance of the voice. Specially

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2 I found this term applied to Beckett audio-visual work in Herren, when he describes the cinematographic reconstruction of *Comédie* in 1966 (2007: 179). Nevertheless, the term comes from the interdisciplinary space of design and technological developments. Formally it is defined as "particularly effective type of innovation strategy… when technological breakthroughs merge with radical innovation of meanings." (Verganti, 2009)

    3 *Phonogène* is a machine developed by Pierre Schaeffer in 1951 as part of the activities of the Centre d'Études Radiophoniques (CER) in Paris.

during the process of producing *Play*/*Comédie* for their (practically) parallel premières in Paris and London in 1964 (Ackerley, 2004: 443, 104), Beckett's main concerns were to achieve (1) absence of movement, (2) the lack of expression of actor/actresses during the representation, (3) lighting as an internal cue, (4) velocity on the pronunciation of the three voice parts, and (5) the figure of a *da capo*, which indicated that the entire play had to be repeated once it had finished (Knowlson and Pilling, 1980: 111-112).

In 1966, through the filming of *Comédie*/*Play*, Beckett is finally able to control repetition and speed through sound manipulation machines (the magnetophone and the *phonogène*) he is able to close a cycle started in 1958. This cycle could be shortened on these terms: (1) he is introduced to radio and / or television technologies, (2) he conceives artwork using these tools – first with a realistic approach and later, when he understood better is possibilities, his creative by-products are more and more abstract. When the learning process is done, i.e. after the use of sound technology to stretch and expand the voice possibilities through *Comédie/Play* the film version of 1966, this cycle comes to an end. Beckett will apply this knowledge of sound technologies to the rest of his creations in all platforms he will explore –written text, stage plays, television, sound. This will apply both for the creation of new work, as for re-creation of pieces conceived for other platforms and brought to the electronic arena.

3   The Voice Manipulated Through Sound Machines

There is something exceptional in the way in which Beckett appropriates and uses audio technology. It is not only a question of adopting, as if it were simply another tool, a device that was at the time rarely seen or utilized in the way Beckett's Krapp does. In the opinion of John Pilling it was "unrealistic to use an open tape recorder the way Beckett used it: too highly systematized to be real" (pers. comm.). Pilling reminds us: "[T]hen it was strange because it is new. Now it is strange because it is an antique" (pers. comm.). Here it is important to remember that Beckett sets *Krapp's Last Tape* in the future, and with this gesture, a machine that records and reproduces sound on a magnetic-tape practically unknown in 1958, stops being cutting-edge technology and becomes a worn-out, old, useless, and obsolete object thanks to this displacement. By placing *Krapp*'s action to the future, the play becomes an anomaly (Johnson 2012, 160): if we go to the theatre how can we imagine or visualize a scene in the near future, where an old man is using a state of the art sound recording machine to register his thoughts and experiences, and what we see on stage is a sound machine from the last century? Pilling reminds us: "[T]hen it was strange because it is new. Now it is strange because it is an antique" (pers. comm.).

Beckett adopted sound technology to solve the challenges that he had had since he started to write: in the monologues of his narratives and the dialogues of his theatre, about the splitting off of the voice from the body, and the attendant necessity of repetition, fragmentation, and interruption in his work.

But the presence of sound technology in Beckett's plays was more substantial than just stage-props or components to build up different monologues and time frames, rhythmical structures, or exact repetitions. His use of sound technology was not just part of this

artistic exploitation of sound as material –registered, edited and reproduced through these machines. He actually challenged the way audio production was being made in the UK. Beckett's radio plays were recorded on vinyl discs and not in magnetic tape, since magnetic tape recorders were used for conservation of audio content, and not for the creation of new sound productions –experimental or not (Frost, 1999: 313). Even if transitioning to tape was not a priority for the BBC, in 1957 a plan to create a sound studio – The Radiophonic Workshop – was projected and finally launched in 1958 (Holmes, 2002: 83). The origin of this studio responds in part to the need to comply with sound requirements that were demanded by Beckett's radio pieces,[4] especially his first (Esslin, 1975: 40), and to carry out audio projects more on tune with what was being done in France by Pierre Schaeffer or in Germany by Karlheinz Stockhausen (Holmes, 2002: 83).

What is interesting, according to John Pilling, is that "[with] the tape recorder for the first time you have control over 'reproducibility.' He [Beckett] likes 'repetition.' Only to have it through mechanical ways. Recurrence and repetition" (pers. comm.). Pilling adds: "[With] *KLT* [Beckett was able to] treat the 'fragment' as a movable thing … deal with fragments, construct rather than create. Bricolage" (pers. comm.). Actually, "[t]his is the first time [Beckett] uses complete repetitions of complete blocks of texts" (pers. comm.). Pilling brings over the term bricolage that comes from the arena of literature and visual arts, that indicates an assembly of a new creative entity made from different sources. But the term allows us also to visualize a way of construction that leaves the unidimensional surface of the written page to expand to a multidimensional sensorial experience. In *Krapp* we are in front of an actor that works around and with machines that allows him to cut, remove, break, and recompose pieces of time made of sound bites in front of our own eyes. After *Krapp* we will find this exact use of language filtered through sound technological devices in *Not I*, *Footfalls*, *That Time*, and *What Were*, just to mention a few, where the voice is now the result and also the proxy of the technological apparatus.

After his discoveries around sound technologies, Beckett would remain closely involved in the processes of recording, editing and mixing the sound elements that he will introduce in his work across platforms. Before 1958 the sound effects and recording were decided far from the recording studios where sound construction takes place; after 1958 Beckett used his experience in the sound studio to define the audio characteristics needed to lend significance to the role of sound in any of his pieces.

Working on sound studios made Beckett aware of vocal speech within time frame sets. He started including his notes about the speed of enunciation on his manuscripts, then he added this element during rehearsals, and later on when he started to add this information on the printed scripts of his works. These machines that he was able to work with in radio and television studios allowed him to visualize a way of working with bodies and voices using technologies to disarticulate its composition, its oneness.

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4 It is well documented that during the recording of *All That Fall* (1956-1957) BBC's production team had a hard time as a result of the technical demands of this radio play. Donald McWhinnie describes the obstacles involved during production of *All That Fall* in 1957 in *The Art of Radio* (1959).

5 Electronic-Beckett

Beckett's involvement with broadcasting technology was not an exception – even if the results where exceptional *per se*. During the first half of the twentieth century and into the 1950s creators in UK and continental Europe had a steady support from broadcasting institutions — radio and later television — which commissioned works to explore these new audio-visual media. Before 1950, the most representative examples were *Der Lindberghflugh*, musical score by Kurt Weill and Paul Hindemith, and radio script by Bertolt Brecht, a radio production of Südwestrundfunk (SWR) broadcast in 1929 (Fisher 2002, 71; Iges 1997, 40); *The Testament of François Villon* radiophonic opera by Ezra Pound produced by the BBC in 1931 (Fisher, 2002: 3); *Pour en finir avec le jugement de dieu* (1948) by Antonin Artaud (Weiss, 1999: 269-307) at the studios of Radio Télévision Française (RTF), and some experiments by Pierre Schaeffer (Kahn, 2001: 134-136; Kim-Cohen, 2009: xix).

After 1950 studios for sound experimentation were finally established, like the Groupe de Recherches Musicales at RTF in 1951 where Pierre Schaeffer was able to cultivate *musique concrète*; the studio for electronic music at the radio of Cologne joined by Karlheinz Stockhausen in 1952 and later Nam June Paik[5]; and the Studio de Fonologia of Radiotelevisione Italiana (RAI) in Milán founded by Luciano Berio and Bruno Maderna in the mid-'50s just to mention a few (Holmes, 2002: 89; Iges, 1997: 76-77).

Two of the main events that took place between 1950 and 1955, and that in the opinion of Jürgen Claus indicate the lift-off of electronic art are the unveiling of Pierre Schaeffer's sound piece *Orphée* (1953), and Karlheinz Stockhausen's first composition with synthetic sound *Electronic Study I* (1953) (Claus, 1999: 180). Five years later in 1958 the first integration of sound and architectonic elements took place at the *Philips Pavilion*, within the Brussels Exhibition (Claus, 1999: 180). The first electronic visual element added to these experiments were Nam June Paik's research on electronic sound and image at the Nordwestdeutscher Rundfunk studios (between 1958 and 1963), results that were later exhibited in 1963 at *Music–Electronic Television*, and the *dé–collages* of Wolf Vostell and Stockhausen, a series of electronically distorted televisual images produced in 1959 (Claus, 1999: 180).

In the particular case of Beckett's involvement with electronic technology from the mid 1950s onwards, his exploration could not be more precise: since the end of the 1940s radiophonic sound experimentation was getting consistent institutional support as I stated above, and as a result, in the mid 1950s the foundations for an artistic practice later called radiophonic art started within the electronic art practices of the second half of the twentieth century. Beckett's radiophonic writing in 1956 coincides with the consolidation of *musique concrète* in France, *electronic music* in Germany (Iges, 1997: 76-77), and the early practices of electronic art (Claus, 1999: 180); and Beckett's audiovisual work was parallel to much of the video art experimentation that took place in the mid 1960s and 1970s, his work being a big influence for artists that explored new media like Vito Acconci, Bruce Nauman, and Tony Ousler, just to mention a few.

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5 In 1955 Nordwestdeutscher Rundfunk was divided in two systems: Westdeutscher Rundfunk (WDR) and Norddeutscher Rundfunk (NDR).

With radio and later television, Beckett explored audio-visual technologies and produced a strong body of work that questioned the nature of the same language he was creating in, which is undeniably a mark of contemporary art practices.

And given the fact that since 1962 Beckett started an active role as a director and producer, looking back and reproducing / restaging / recreating his own previous works for different media, he used audio-visual technologies no to adapt his old work into new platforms, but to create new pieces using the original texts as source, which allowed him to reformulate again his unique search and to solve it in different ways / different languages / different media.

When Beckett finds and manipulates a *phonogène* in 1966, he finally discovers a solution to all of his thirsts centred around the bodiless-voice mediated by sound machines. Electronic media will allow him to concentrate from now on the excised voice in his work for electronic screens and the stage.
Beckett would take different paths in order to bring his ideas into three-dimensional stage space. And specifically speaking of his electronic audiovisual work — since he would not write anymore for a sound-only platform — this construct conceived and produced from 1962 onwards put Beckett's work in tune with the intermedial language that was being explored within contemporary art practices.

Beckett's television work, and specifically the placement of the camera as a closed-system, a clear element of surveillance and control, with a zoom that moves in through a very precise pattern determined by the articulation of the female voice and her silence patterns (*Eh Joe*), or the camera visually registering every detail of the room following instructions of a (again) female voice (*…but the clouds…*), could be the direct antecedent of the early video work of Bruce Nauman in the late 60s and early 70s (Benezra, 2002: 126), or the single-channel video pieces of Vito Acconci (Kaye, 2007: 106).

Beckett's approach to audio visual technologies is the approach of a researcher, getting his hands into each one of these languages mediated by and made through these machines. One may think that these radio and television productions were made to be broadcast only, but back then the only place to be able to experiment with these technologies were European radio and television studios. Beckett was fortunate to have all those tools to work with and to use them in order to expand his own creative process. He accepted the use of sound and video technology in order to register their effects in his stage productions, but not for adapting his work into these media. Beckett used video and sound technology as a tool to construct his work within those platforms, and to continue his quest of the creative act and the voice through and with these same instruments.

With the first *technological epiphany*, which clears the ground for *Krapp's Last Tape*, we may deduce that in 1958, using a reel-to-reel tape recorder, Beckett discovered the possibilities – at a conceptual and creative level – offered by the dissociation of sound and its source/emitting body. Beckett then became involved in the production of plays for a sound-based medium. And he brought to other platforms his interest in sound mediated by technology: the voice recorded, manipulated, replicated.

In 1966, with his manipulation of a *phonogène* for the short film *Comédie*, Beckett closed a cycle related to the exploration of the speed of enunciation, sonic texture and the visceral nature of the verbal pronunciation over the textual content. After this second *epiphany*, Beckett began to conceive a series of plays in which the human voice would seem to be mediated by sound machines, and in which the enunciation would be ever more mechanized, even when not mediated or activated by technology.

Beckett's exploration of the fragmentation of the body and the use of the bodiless voice as a three dimensional element that could be inserted either on the TV set or in the stage was facilitated by his introduction to broadcast technologies. The modular structures and distinct configurations that Beckett established in his work after 1956 constitute elements that arise from his experimentation in the sound and television studios, which provided Beckett with a creative vehicle that allowed him to bring and develop his aesthetic into his sound and video/television works; an aesthetic not dissimilar from contemporary art practices that used electronic means.

As it was stated at the opening of this text, creators that had a steady support from broadcasting institutions were able to explore new languages through these cutting-edge technologies (Iges, 1997: 77). And Beckett was no exception. Beckett took the parallel approach as other artists of that time did, questioning and deconstructing the media that he worked with: radio, film, television, video, and the performatic space of the stage. He was able to work and have a strong impact and negotiation power with the biggest media institutions in Europe and he did not have to wait, as many artists did, for the audio-visual technologies to commercially become available in order to experiment with them.

Beckett was not confined to a medium or a language, he did work with sound and moving image. Why, then, did contemporary art practices not pull from Beckett's experimental oeuvre and embrace it as their own? In the case of sound-based art practices we need to remember that "despite the cultural pervasiveness of sound, there was no artistic practice outside music identified primarily with aurality" (Kahn, 1994: 2), consequently, the construction of a "history" of sound-based art practices is something of recent making — from the 1990s onward. Actually artists working with sound were adopted by the tradition of music, then labelled as an expanded art practice of music itself[6].This may be the reason why among contemporary composers Beckett was very well regarded given his interest in voice, rhythm and the openly important role of organized sound. We may think on Marcel Mihalovici, Heinz Holliger, Wolfgang Fortner, Luciano Berio, Morton Feldman, Roger Reynolds, Clarence Barlow, Jean-Yves Bosseur, or Philip Glass.[7]

In the UK video art grew very slowly: "examples during the period of Beckett's involvement with television show the differences between the two forms" (Bignell, 2009: 64) television and video. In the UK there was a total lack of interest in video art, and the first major exhibition of British video artists took place in 1975.[8] Artists working with video were more interested in the actual capabilities of the "new" technology than in the process of the creative construct, that is, since it was a new technology they were exploring its material characteristics rather than building a new language[9].

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6 For a detailed approach see Bignell, 2009: 64-66.
7 See Bryden, 1998.
8 'The Video Show' at the Serpentine Gallery in 1975. Bignell, 2009: 64.
9 For a detailed approach see Bignell, 2009: 64-66.

One of the main concerns of television producers and directors was that this media "should find its own form and style of … representation," and a good example of this practice is Beckett: he not just wrote for television, but "explored televisual forms" (Bignell, 2009: 77). Anyhow, Beckett's audio-visual work was not accepted under the tag of video art or experimental audio visual form, since he is mainly "regarded as a dramatist. In terms of the aesthetic forms of British video art and its institutional placement, Beckett's television drama is, precisely, drama for television and not video art" (Bignell, 2009: 66). And at the other extreme, his audio-visual works are not adopted by the experimental film history, since "the abstraction towards which avant-garde film moves … is not as significant in Beckett's screen work" (Bignell, 2009: 75). The same we may say of his sound work: Beckett's plays for radio are not sound art (a label that appeared in the late eighties), but they are actually recognized as radiophonic art.

But here we are talking about the history of art practices tied to certain media or languages (video, sound, film, performance) in a moment when those practices did not even have the language to name its own by-products. And if in that time — namely 1960s, 1970s or 1980s — Beckett's practice was not recognized by his equals —historians, critics and practitioners within contemporary arts—, the truth is that since the late 1980s his work has been presented in major exhibitions: *Samuel Beckett: Teleplays* at the Vancouver Art Gallery (1988); *Samuel Beckett/Bruce Nauman* at the Vienna's Kunsthalle (2000); *Samuel Beckett's Work for Film and Television* at the Museo Nacional Centro de Arte Reina Sofía in Madrid (2006); *Samuel Beckett* at the Centre Pompidou in Paris (2007); and his video work has been included in the exhibitions *Adorno* (Frankfurter Kunstverein 2003-2004); *documenta X* (1997); *Voilá* (Musee d'art Moderne in Paris and Anthony Reynolds Gallery in London 2001); and at the 49th Venice Biennial "Plateau of Humankind" (2001).

Beckett was working in French, English and German, using all media at hand (radio, television, film), and taking all technological challenges that were in front of him. He approached the creative act from scratch: going from the printed word, the non-dimensional construct of bodiless-sound, to the two-dimensional construct of the electronic screen, and to the three-dimensional construct of fragmented bodies surrounded by mechanical-sound.

Beckett did question the discipline in which he was working, and electronic platforms were not the exception. And this questioning of the chosen language is one of the main rules in contemporary art: Beckett was not representing reality through electronic means, his quest was not to look for his work to be known for a wider audience. On the contrary, he used television and radio and the instruments associated with these technologies to question reality when producing his works, and questioning the actual nature of the electronic languages he chose to work with.

Beckett, finally, can be seen as a multiplatform creator, and our job now is to put his oeuvre under the microscope and start analysing it using the tools with which contemporary art theories provides us. This small survey of his electronic and trans-generic work –all those plays that Beckett decided to bring over the electronic arena– is just an invitation to start looking at these works with a different lens.

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28. Musicology of listening – the cachucha (caxuxa) and the history of aural transmission in Brazil

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Abstract: In 1836 the German dancer Fanny Elssler (1810-1884) created a choreography for the dance "cachucha" for the ballet-pantomime by Jean Coralli (1779-1854), *Le diable boiteux* [The Lame Devil]. This version of the dance was applauded worldwide in various Elssler presentations. However, since 1823 there are newspaper references to "Caxuxa" being presented on stage in Rio de Janeiro by the Brazilian dancer Estela Sezefreda (1810-1874), as well as being part of the street organs and music boxes recorded repertoire. There are several versions of Cachucha in score, from 1813 on (96 entries in the National Library of Spain). An excerpt of the melody also appears, almost literally, in the first part of a famous Brazilian nineteenth-century Lundu, "Lá no Largo da Sé" [There in the Largo da Sé] (1837-1838) by Inácio Cândido da Silva (1800-1838) and Manuel de Araújo Porto Alegre (1806-1879). The reception of Cachucha / Caxuxa allows a reflection on the oral, written and aural transmission, from the perspective of musicology. There is evidence of written transmission in the case of the melody, that remains the same in almost all examined sources. But there is also evidence of oral transmission, in relation to versions with lyrics. And, above all, evidence of aural transmission, long before the invention of the "talking machine" in the late nineteenth-century.

Keywords: Cachucha, Maria Caxuxa, music transmission, reception, recorded music history.

1 Introduction – The Musicology of Listening

Music research from the perspective of musicology has listening as its main tool for knowledge production. When the research object is the music of the past, we are talking about a chain of successive receptions to which the musicologist seeks to listen while exercising a kind of effort that Leo Treitler called "historical imagination", i.e., exploring evidence of "presentification" - music is always heard in the present – inscribed in the registers (usually written) to which one has access. For Treitler, "the meaningfulness of music through all its presents, from the moment of its creation to the historian's present, is the content of historical thought about it. And the presence of music in the historian's consciousness is the condition under which such thought can take place" (Treitler, 1989, p. 1). That is, the music historian must "listen" in the present, recreating the materiality of the sound, in order to understand and talk about the music of the past. Additionally, these receptions also mean a chain of listening practices or "audile technique" (Sterne, 2003), which has historically mediated what is music or noise. In the case of Rio de Janeiro in the first half of the nineteenth century, for example, the sound of the street organ in the streets was received much more like noise or a curiosity than as music.

In this paper, I hope to present an "acoustically tuned" investigation (Ochoa Gautier, 2014) about musical practices related to entertainment recorded in nineteenth-century periodicals of the city of Rio de Janeiro, especially after the proclamation of independence. The sound image that is gradually constructed shows the imperial capital as a cosmopolitan city, consuming a variety of period music and curious novelties such as

music boxes and street organs whose sounds were ignored or lost in the buzz of the city's intense urban life. The transmission and reception of the caxuxa (cachucha in the European version), a Hispanic dance known since the early years of the nineteenth century, are among the sounds that seem lost in the past. The caxuxa was presented on Rio stages alongside other exotic dances, including the lundu, with which it shares a partner dance choreography in Brazil. The cachucha, however, is not mentioned in any history book on Brazilian music.

I had never heard about the cachucha before I started exploring old periodicals. What called my attention was to find a close resemblance between the melodies of the "Cachucha" and a famous lundu, "Lá no Largo da Sé" (There on the Cathedral Square, 1837-38), with music by Cândido Inácio da Silva (1800-1838), and lyrics by Manoel de Araújo Porto Alegre (1806-1879). For some years, I conducted several studies on this lundu, most of which related to the examination of musical prosody, or the rhythmic synchronization between music and lyrics (Ulhôa, 2011). This research direction conditioned my own perception of "Lá no Largo da Sé," a perception that each time became more naturalized. Over time I began to hear the lundu with a kind of distracted listening, because the melody of it was inseparable for me from the lyrics.

<div align="center">

Lá no laaar-go daa Sée Vee-lha
Está vii-vo um graan-de tutu
Num-a gai-ola de fer-ro
Cha-maa-do su-ru-cu-cu[1]

</div>

As mentioned earlier, lundu as well as caxuxa were presented on Rio stages alongside other exotic dances. Lundu, in order to be incorporated into Brazilian music, underwent a process of stylization and smoothing of its African elements, while cachucha (like the waltz and the polka) was appropriated. In this paper I focus on the reception of cachucha.

There are several versions of cachucha to investigate. There is the dance and song "Americana (Chanson et danse américaines)" from 1813 and "La Cachucha, As Danced by Madlle Elssler" from 1836. Also, the caxuxa was danced on Rio stages starting in 1823, interpreted by young dancers like Estela Sezefreda (1810-1874). Also, there is the course of oral transmission of the song through the Iberian Peninsula and Brazil. Finally, there is the mechanical repetition in the repertoire of street organs and music boxes. And one excerpt of the "Maria Cachucha" melody also appears, almost literally, in the first part of the aforementioned nineteenth century Brazilian lundu "Lá no Largo da Sé." The intriguing question for musicology is, what kind of musical transmission occurs in these various paths of cachucha?

The cachucha/caxuxa reception allows a reflection about oral, written and aural transmission from the perspective of musicology. There is evidence of written transmission in the case of the melody, which stays the same in almost all examined examples. But there is also evidence of oral transmission, in relation to variants with the lyrics. Above all, there is evidence of aural transmission, long before the invention of the "talking machine" (the phonograph and gramophone) in the late nineteenth century.

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[1]"Lá no Largo da Sé" - https://youtu.be/DqaWTjJ4ZTc [Interpreters: Rosemeire Moreira & Tiago Pinheiro, Pianoforte: Rosana Lanzelotte, Guitars: Guilherme de Camargo, Percussion: Dalga Larrondo, flutes & direction: Ricardo Kanji]. Translation: "There on the Cathedral Square / a big tutu is alive / In an iron cage / Called surucucu (snake)."

2 Written Transmission of Cachucha / Caxuxa

2.1 The Cachucha of Elssler

In 1836 the German dancer Fanny Elssler (1810-1884) created a choreography for the "cachucha" dance for *Le Diable Boiteux* (The Lame Devil), the pantomime ballet created by Jean Coralli (1779-1854). This version of the dance was applauded worldwide in various presentations by Elssler.

Casimir Gide (1804-1868), the composer of *Le Diable Boiteux,* apparently adapted or arranged from an already existing source of cachucha, since collections with Spanish songs and dances were being published in Paris beginning in the late 1810s. Particularly one that included "Cachucha: chanson et danse américaines, familières aux gens de mer sur les Ports / arrangées pour la guitare et le piano par Mr. Paz". It's a version that is very close to the score published in Baltimore by the composer Samuel Carusi, "La Cachucha, as Danced by Madlle Elssler, Arranged for the Guitar." The coincidences of the melodic contour of the initial part and of the second part are notable. In music, written transmission there can be some variation in new versions depending on the arrangement, but in general the piece's structure is maintained.

On the Internet one can find the biography of the dancer with pictures of her costume used in 1836,[2] as well as versions of the choreography for cachucha.[3] The dance was a milestone for the romantic ballet. In the 1830s the presentations caused a frenzy in the male public, because of "Elssler's sensuous grace, lascivious abandon and plastic beauty" (Guest 1981: 13).

The dance style with raised arms, with or without castanets, and individual progression, either solo or in a couple, is common in descriptions of various dances such as the fandango, lundu and cachucha.

2.2 The Caxuxa in Brazil

In Brazil, caxuxa was danced as "Spanish dance" and had a character of graciousness (funny - with grace), and was performed by girls and young women or ladies. We find the first reference to caxuxa in the *Diário do Rio de Janeiro* dated October 31, 1823, about a year after the independence of Brazil, when the newspaper announced a program at the

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2Search for: Fanny Elssler the Florinda in the dance *La Cachucha* from the 1836 Coralli / Gide ballet *Le Diable Boiteux*. Paris, 1836. Link to picture: https://upload.wikimedia.org/wikipedia/commons/thumb/e/e2/Elssler_Cachucha.jpg/411px-Elssler_Cachucha.jpg
3See: "La Cachucha," from *Il Diavolo Zoppo*, 1836, with Carla Fracci as Fanny Elssler. https://youtu.be/vUb4FzRvH5M

Royal Theatre, on behalf of the Brazilian actress and dancer Estela Sezefreda (1810-1874), then 13. At the end of the first act of the comedy *Os Salteadores* (The Brigands), Estela and the French dancer Louis Lacombe danced caxuxa. The next year, on March 2, 1824, the *Diário do Rio de Janeiro* announced Estela Cezefreda and Luiz José Lacombe Junior dancing the "Lundu de Monroi."

The mention of "Lundu de Monroi" is relevant because, according to Manuel Quirino, the choreography of caxuxa was the same as that of the "Lundu do Marruá, where the couple begins in the waltz position, but then separates their hands and continue to dance with arms raised and playing castanets (Querino 1955: 115). From what we know of the choreography from descriptions, even if anachronistic, it is possible to imagine that the lifting of the arms and the moving of them while playing castanets (or not) were accessible even for novices. If one uses a certain amount of historical imagination, one can assume that the choreography of cachucha can refer, in a stylized form, to the movement of a small sailing vessel in the ocean, perhaps even a reference to the first representations of "cachuchita".[4]

3 Written and Oral Transmission - Sheet Music, Manuscripts and Songbooks

The oldest document found in the context of this research has a tentative date of 1810 and is a "Cachucha" manuscript in the National Library of Spain, with an orchestral arrangement of "Cachucha" by Ramon Carnicer (1789-1855), where the introduction of eight repeated bars is precisely the opening phrase of the versions used for the dance mentioned above. The song "Tengo una cachucha yo ..." appears in the second part, being doubled by clarinets. In sequence, the melody of the first part also receives lyrics, always being started with the words "Con el tururum." Interestingly, more than a century later, in 1944, in a scene from the film *El Gran Makakikus*, Joaquin Pardave presents a version of cachucha, where the first part now has lyrics starting with "Tiro liro liro" and then becomes instrumental with Pardave snapping his fingers to imitate the playing of castanets while he hops in a circle in front of the accompanying instrumental group.[5]

Then there is version of the *Chanson et Danse américaines - Famillieres aux gens du mer sur les ports*, mentioned above. The part with lyrics says:

Tengo yo una cachuchita /
en que navego de noche /
y en tocandole, los remos /
parece que voy en coche /
vamo nos china del alma /
vamos nos a Portugal ["a puerto real" in another version]/
que para pasar trabajos /
lo mismo es aqui que allá / vamo nos

The melody of the verses is typically vocal where the verses of seven syllables (major *redondilha*) fit well into the structure of a period of 32 bars with two phrases of 16 internally repeated bars (aa + bb).

4See the lithography *El barquero con su cachucha* (of Bardel, Lit. of Langlume, rue de l'Abbaye, no. 4), in *Regalo lírico…* Retrieved from http://bdh.bne.es/

5See "La cachucha" at https://youtu.be/whBT4EG2xqA (scene from the film "El Gran Makakikus," where Joaquin Pardave sings).

3.1 Spanish Variants of Cachucha

In addition to these versions of sheet music there are three documents that clearly show the popularity of cachucha in Spain. The first two date from 1813. In a book *Tertulia de la Cachucha - Primera parte,* edited by Xerez de la Frontera and published by Don Juan Mallén, there are stanzas commenting on the women of a hairdresser, carpenter, cobbler and boatman. The second part has "Coplas patrióticas de Xerez". Both have the refrain beginning with "Vámonos, China del alma", which is present in all versions found with lyrics.

The other text (from 1814) clearly demonstrates a position against Napoleon, during the French occupation of the Iberian Peninsula. It is *A Cachucha Nueva que declara las últimas maquinaciones del tirano Napoleon, y anuncia à la Francia el único médio de salvarse y conservar su independéncia*. Like the other variants it has lyrics in major *redondilha* (seven-syllable verses). The lyrics are illustrative:

Segunda vez Bonaparte /
quiso ser Emperador /
la causa fué haber dexado /
con vida a tanto traydor. //

Bien decía mi Cachucha: /
si los hubieran ahorcado (hanged), /
y a Bonaparte el primero, /
la guerra hubiera acabado. //

Vámonos. Etc.

3.2 Maria Cachucha in Portugal and Brazil

As mentioned above, a basic principle for oral transmission is the existence of formulas or structures that may be filled in *ad hoc*. In popular song, the use of the structure of seven-syllable verses and regular musical phrases, with points of caesura and tonal support, makes everything much easier.

In Portugal there was an interesting phenomenon regarding the transmission of cachucha. There, variations with lyrics use the first part of the melody and not the second as happens in Hispanic versions. The documents encountered date back to after the Spanish examples.

The oldest version of cachucha in Portugal known to date was published in Cesar das Neves and Gualdino Campos' *Cancioneiro de músicas populares* (1893). Except for being in 6/8, with guitar accompaniment, and in the key of A major (more appropriate to the instrument), the melody is the same as that of the examples found in Guilherme de Mello (first published in 1908) and reproduced in Oneyda Alvarenga (1960). The melody in 3/8 is

the same as the first section of Carusi's version of "La Cachucha" for guitar, mentioned above. The lyrics of the lullaby (or "berceuse," as Guilherme de Mello says) is clearly anticlerical by the reference to a Jesuit friar:

Maria Cachucha	Maria Cachucha
Quem te cachuchou?	Who caxuxou you?
Foi um frade Loyolo	It was Friar Loyolo
Que aqui passou	Who passed by here

4 Oral and Aural Transmission – "Maria Cachucha" and "Lá no Largo da Sé."

As mentioned, significant portions of the excerpt of the "Maria Cachucha" lyrics use the instrumental first part from the "Cachucha" versions found in the National Library of Spain.

Regarding the caxuxa / cachucha dance, the differences in choreography appear to be in the solo or partner dance, but the use of the same melody in the sheet music is notable, both in the instrumental and sung versions. Regarding the song, notes from the opening melody of "Maria Cachucha" can be found in the lundu "Lá no Largo da Sé", a coincidence that draws attention, which is shown in the paradigmatic comparison made by Luiz Costa-Lima Neto as part of his thesis *Música, teatro e sociedade nas comédias de Luiz Carlos Martins Penna (1833-1846).* According to Costa-Lima Neto, "The first melodic phrase of the lundu "Lá no Largo da Sé" (bars 1-5) refers to the beginning of the melody of the Portuguese popular song "Maria Caxuxa" (bars 1-8), referred to by Martins Penna in the comedy *O diletante*..." (Costa Lima Neto, 2014: 191-192).

That is, due to prosodic adequacy, the lundu "Lá no Largo..." and the melody of "Mary Cachucha" seemed to me to be (and are) different works. The connection only began to take shape in laboratory conditions, using musical writing software for a transcription and a transposition of the two melodies to the same key to facilitate comparison. It is important to reiterate that the researcher's reception is mediated by enculturation and intimacy with the musical material. While I did not notice any resemblance between the lundu and the cachucha, Luiz Costa Lima Neto immediately realized the similarity of melodic contour when he heard me sing "Lá no Largo da Sé".

4.1 The Cachucha in Street Organs and Music Boxes

Through research on the lundu and cachucha, we have had evidence of the two being played on street organs in Rio de Janeiro (Ulhôa & Costa Lima Neto, 2013, 2015). However, it remains to be seen which songs were played. Of course, old street organs would not have survived the ravages of time, given the fragility of the material used in their construction. The street organs of the first half of the twentieth century were adaptations of pipe organs (in Brazil as well as in the Hispanic world, where street organs are called "organillos"). Inside them, a crank simultaneously activates a bellow and a cylinder having metal protrusions that open the tubes of corresponding musical notes. Luckily, music boxes - where a Swiss watch mechanism moves a cylinder of metal protrusions, vibrating

a plaque with tuned metal teeth - were also widespread in the first half of the nineteenth century in Rio de Janeiro. However, there was no proof of the real identity of the soundtrack heard by Cândido Inácio da Silva, the composer of "Lá no Largo da Sé", in the Rio de Janeiro streets. An ad in a periodical recorded the theft of a music box containing "Caxuxa" among other tunes, in 1841, i.e., after the Fanny Elssler version. Was the similarity of melodic contour between "Lá no Largo da Sé" and the "Cachucha" a mere coincidence?

So, I continued to search. With the help of the Internet, without which this research could never have done, I found two examples of music boxes including a cachucha. Initially, I managed to get a Ducommun-Girod n. 33064, from 1865, with "Cachucha" (along with the national anthem of Chile, two waltzes, one "Hats Polka" and the aria "Spargi d'amaro pianto," from Lucia di Lammermoo). As mentioned above, since the national anthem of Chile (1828) is a Carnicer composition, it is not surprising that music box also contains "Cachucha," a song for which he made the arrangement for voice and orchestra. But we're talking about 1865, when the model could simply be the standard version by Fanny Elssler.

At the same time, through the "Mechanical Music Digest" list (http://www.mmdigest.com/), I learned of the existence of a small musical snuffbox from 1824 (or 1829, depending on the clarity of the date of the instrument registration), purchased in Spain, with two tunes, "Allemande" and "Cachucha." Its owner, the collector Luuk Goldhoorn (of Utrecht, the Netherlands) generously allowed the filming of his music box playing the "Cachucha".

Finally, you can safely say that a likely source of inspiration for the composition of "Lá no Largo da Sé" has been the Spanish cachucha.

5 Conclusion - Implications for the History of Recorded Music in Brazil

The path from cachucha in a music score to street organs and music boxes in the nineteenth century is one of written transmission. However, the path between the "Maria Caxuxa" of street organs to the lundu "Lá no Largo da Sé" goes through what is now called ubiquitous music or, as the subtitle of the collection edited by Marta García Qiñones and Anahid Kassabian (2013), explains," the everyday sounds that we don't Always notice."

Today sounds gush from the radio, public establishments, film and television, among other sources, while in nineteenth century Rio de Janeiro one could hear yells advertising goods, songs of slave laborers and of course street organs. Even if there is no effort of attention, there is an involuntary listening in most cases to sonorities of the soundscape that surrounds us. These sounds can be repeated so much that they end up "sticking" in our ears, almost mechanically. This repertoire will be recorded in medium-term memory, as part of our internalized sound baggage, ready to emerge at the time of creation or performance.

Here now operates a kind of aural transmission - where there is a combination of written and oral transmission processes, the first by relative fidelity to the original composition and

the last by the use of biological memory - and the music that was "frozen" in the recording can be, finally, released to an active reception.

And in practical terms, the musicologist can say: the history of recorded music in Brazil has its first milestone with the mechanical transmission of street organs and music boxes, around the 1830s, that is, long before the introduction of the phonograph and gramophone in the late nineteenth century.

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29. "Every Argentine man should know what his mission is and fulfill it". Notes on electronic vanguards during the Peronist administration CICMAT (Buenos Aires, 1973-1976).

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Abstract: in November 1972, the machines at one of the most important electronic music laboratories of Latin America in Buenos Aires were turned back on. It was built in the previous decade at the Torcuato Di Tella Institute, with funding from the Rockefeller Foundation (Novoa 2007). The changes in the political and economic landscapes led to the closing of the Institute in 1971 (Orobigt et al. 2003, Dal Farra 2006). Its' main actors, Francisco Kröpfl, José Maranzano, Fernando von Reichenbach, Gerardo Gandini and Gabriel Brnčić, were forced to look for a new place to further develop their activities. In this framework a new center was founded inspired by the multidisciplinary premise: the Center for Research in Mass Communication, Art and Technology (CICMAT). But unlike its predecessor, the funding came from municipal source, and consequently the project was directly related to the political situation and its' objective should be partly devoted to "community service". By 1973, the new Peronist administration changed the agenda and reformed some "research areas" incorporating new areas with substantial differences form the original work groups which were in the line of modernist international avant-garde (Garutti 2015). The aim of this communication is to provide new information on this story, which has not been addressed by literary work, explaining, in reflection on economics conditioning, the connections between aesthetic conceptions and political ideas. The "missions" Peron commented every Argentine countrymen to know and fulfill, converge on the CICMAT with ideas on vanguards movements and *selective traditions* as diverse as *techno-scientific imaginary* supposedly autonomous form politics, "Latin Americanist" composers working in solidarity with resistance movements (Corrado 2011, Perrone 2007, 2016), and the "*militante (activist) theatre*" (Verzero 2012). For this purpose, I will draw on documents recently found in the Archive Fernando von Reichenbach and mention some works produced in the laboratory.

Keywords: electroacoustic, developmentalism, Peronism, autonomy of art.

1 Introduction

Anyone looking through discursive production in Argentina is probably under the impression that any subject can be referenced and related with a quote from Juan Domingo Peron or Jorge Luis Borges. The history of electroacoustic music is no exception.

The Center for the investigation of Mass Communication, Arts and Technology (CICMAT) was inaugurated in November 1972 with the objective of continuing the work of some areas of the recently shut down Di Tella Institute. But in the beginning of the decade politics were an inescapable topic. If production in the 60's was in tune with the optimism of the developmental period, the 70's presented the need for compromise that brought tension to the modernist autonomy. This paper pretends to analyze this change in the condition of production and present some poetics that were sympathetic with political radicalization.

2 Developmentalism and electronic music pioneers

Since the first experiences that concurred with what happened in the great post-war capitals, argentine electronic music was in close association with technological development as State policy. Its' found in the incipient bibliography, that the first experience took place in an industrial expo in Mendoza in 1954 (Koremblit 2006, Monjeau 2004, Edelstein 1992). The composer Mauricio Kagel installed loudspeakers in a tower designed by Cesar Janello, through which he broadcasted a loop consisting in concrète and electronic music specially arranged for the occasion. The experience was re visited in 1961 in Buenos Aires for similar reasons when the inventor Fernando von Reichenbach was responsible for the multimedia design of the Shell Company's box in a modernist fair, this time with ethnic music in charge of Leda Valladares.

The installment of the first electronic music laboratory in Buenos Aires in 1958 is a case that coincides with the analysis conducted by Timothy Taylor (2001: 44) on the technological fever that characterized the post war period. The expansion of the *techno-scientific imaginary* as part of a huge investment from the US government to change the meaning of destruction that nuclear energy had been associated with and by extension scientific research made an impact in Argentina during Peron first administration. In 1948, German physicist Ronald Richter convinced President to obtain finance for his research projects on controlled thermonuclear fission, an unprecedented technique that could revolutionize the history of energy production. Peron agreed and set up an important lab in Huemul Island, Bariloche city, 1500 km from Buenos Aires. Three years later, and after he announced the official success of the Project, an expert committee discovered that Richter suffered from dementia and that the investment had been in vain (Minsburg 2010: 4). Esteban Buch, author of an opera about the scientist' life, described the scene: "a day before a psychiatrist declared that Richter was affected by «a crepuscular state» he was spotted wandering among loudspeakers blasting such impressive yet useless sounds"[1].

This episode will be fundamental to the history of electronic music. A large part of this equipment –the most sophisticated means of acoustic measurement in its' time– arrived to the University of Buenos Aires in 1956, thanks to the work of the Director of the Institute of Technology of the School Of Architecture, and fell into disuse. The next year, Argentinean composer Francisco Kröpfl landed his first contract to study the feasibility of putting together a new lab and had become aware of Richter's lab, which had just begun creating sounds far from his founder's atomic dream in October of 58. Among the work produced in this lab were Kröpfl's first pieces ("An exercise on texture", "An exercise on impulse" between 59 and 60 and "An exercise on dialogue" 1960) and the first pedagogical experiences began, with disciples including Dante Grela, Jorge Rotter, Eduardo Tejeda, Nelly Moretto, José Maranzano, Jacqueline Nova and Eduardo Bértola among others

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[1] On *La Nacion* 09/25/2003. Avaible online: http://www.lanacion.com.ar/530127-richter-la-opera-de-la-impostura. Consulted 10/5/2016

(Orobirg et al. 2003). Raul Minsburg (2010) indicates that the main objective Kröpfl and Fausto Maranca set themselves up to once the Phonology lab was founded was "not so much to compose rather than manufacture devices that didn't exist, at least in this country". The proposal of reaching higher levels of complexity surpassing the artisanal technique of tape-cutting set the precedents for what would be the second and most productive laboratory in the city within the Torcuato Di Tella Institute (ITDT).

Around the 1950's, Argentina was excelling from the other countries of the region in having achieved an "intermediate development" (James 2002: 13). After a massive rural exodus, the most important cities extended their middle classes with a high capacity for consumption and access to education. Even though during the early stages of Peronism, regardless of its endorsement of anything "national and popular", there weren't any limitations to the influx of foreign information, in the new decade modernism presented itself as a rush resulting in a true revolution of the cities' customs. The endorsements of foreign investment as conditions for the chance at inner development was the main thesis of the project of President Arturo Frondizi. In the cultural field an analog event finally consolidated Buenos Aires as a regional landmark with international recognition. As Andrea Giunta analyzes in her book *Vanguardia, internacionalismo y política* (2001) an upcoming sector of the industrial bourgeoisie and the intellectual field initiated bonds with US institutions with the objective of positioning local production in the metropolitan areas. The internationalist approach was present both in the need to stay updated regarding the negative assessment of the general level of production, as well as it was in the need for international recognition. The local institution that best condensed the project was the acclaimed Torcuato Di Tella Institute that remains to this day a reference in the cultural field, for the extension and depth that was pursued there. Art Music had two dedicated spaces in the institute, the Latin American Centre for High Musical Studies (CLAEM) run by Alberto Ginastera, and the Laboratory for Electronic Music attached to the concert Hall, in charge of Fernando von Reichenbach and Francisco Kröpfl.

If, as we'll see, the American-financed plan in visual arts didn't succeed in turning the dominant problem from innovation in formal structures to openly political conundrums, in the music field this relationship develop in a different way. The purpose of the next excerpt is to analyze the financing conditions that allowed the institutional predominance of a "aesthetic of autonomy", and what changes took place when relationships with politicians was necessary in order to guarantee subsistence.

3 Autonomy and funding: from CLAEM to CICMAT

A six years subsidy granted by the Rockefeller Foundation in the framework of "Pan-American" cultural policy from the Alliance for Progress was the condition for the creation of CLAEM. As we can find in the colorful bibliographical information on the subject, this center for musical postgraduate training was funded with the intent of updating young composers of the continent to the current aesthetic tendencies and musical techniques in the main international centers. It worked through a system of biennial scholarships, granted by contest to study and arrange "advanced" music in the Florida St. headquarters, in the financial center of Buenos Aires.

Alberto Ginastera was a key propeller of the project, which he later directed, when he was hired by John P Harrison, the assistant director of the Humanities wing of the Rockefeller Foundation. Ginastera had several years of experiences regarding US cultural policies and had become a regional referent both as a composer and a manager of "Pan-American" music festivals, in Caracas as well as in Washington. As Eduardo Herrera (2011) proposes, in his notes on Harrison's trips to Buenos Aires figures an entry in which the dignitaries' interest in the relevance that Ginastera granted to US finance within the development of his own career:

> Ginastera argued that among all the difficulties of sustaining a living, practically all of his works in the last decade had been achieved under scholarships or commissions from some US organization. He said that, apart from his time being subsidized by the Guggenheim or Rockefeller association, whether directly or indirectly, the only time he had to write music was during the weekend. (Herrera 2011: 32)

The justification to organize the CLAEM from Ginastera and Harrison originated from a diagnosis: the technical deficiency and the aesthetic outdating of Latin American composers. And that regional impact was a fundamental argument in the approval of the project by the Rockefeller Foundation whose interest, especially after the Cuban Revolution in 1959, aimed at improving the image of the intellectual and artistic elites of the US in center and South America (Canclini 1990, Giunta 2001). Harrison says, "it is expectable that the composers that were trained in the center, apart from increasing substantially the volume of acceptable musical pieces, initiated a genuine reform in Latin American musical instructing as they were returning to the conservatories and universities in their respective countries". Ginastera agreed in that level of the musical pieces weren't up to par and that reform was necessary:

> Washington-based Latin American music festivals in 58 and 61 revealed the presence of composers who acquired international fame. But these festivals also uncovered the lack of professional environments in many musicians that lacked the technical elements to overcome the average artistic level, even having real talent. (…) for these reasons the American critic Howard Taubman published after the second Caracas Latin American Festival an article proclaiming the need for a musical institute of some sort in any of the Latin American capitals. (…) He argued that some US foundation ought to help in establishing such institute, of vital importance for our continents music. The Rockefeller foundation, aware of its' moral responsibility towards the Americas' cultural welfare, took notice of Taubman's suggestions (…) and during Dr. Harrison's visit to Argentina, we spoke explicitly about the possibility of a program that would create a musical center in Buenos Aires. (Herrera 2011: 33)

"The Americas' cultural welfare" that "some morally responsible US foundation" could support –and particularly the Rockefeller Foundation, being that Nelson Rockefeller had been promoting the idea of investing in Latin America since 50's– sound like words being uttered by President Frondizi himself under the premise that the region could emerge from underdevelopment without help from developed countries. Frondizi said at the US Congress in 1959:

> You can't be indifferent to the fact that millions of individuals live in poor conditions in the American continent. The conditions that these countrymen face is not only an appeal to our common ideals of human solidarity, but also a strong source of danger for the

hemisphere's safety. To leave an American country in disarray is as dangerous as the danger coming from a communist power. The fight against the detriment of the masses claims for more solidarity within the hemisphere than the one promoted by your military or political defense. True defense of the continent consist in eliminating the causes that generate misery, injustice and cultural stagnation. (Morgenfeld 2012)

Regardless of the explicitness of political speeches –and the ties with politicians, a part of the broadcast strategy of one's own work– and the evident importance of social issues in his music, when it came to funding Ginastera seems to have continuously operated under the premise of aesthetic autonomy. Before consolidating the establishment of CLAEM In the Di Tella Institute, amidst the search of a partnering institution on a local level, Herrera claims, Ginastera and Harrison had one certainty: in order to avoid political interference, "any school would have to be completely divorced from national, municipal or state control, in order to fulfill its' objectives" (Herrera 2011: 31).

Finally, the first scholars arrived in '63 and in '67 the electronic music Lab was formally inaugurated –having been built since '64 first by Engineer Bozarello with the advising of Mario Davidovsky and, since 1966, by Fernando Von Reichenbach. The arrival of Francisco Kröpfl recommended by Davidovsky on that same year, and delayed by the dispute between Ginastera and Juan Carlos Paz (Buch 2007), as Novoa indicates, coincided with a quantum leap in the work of the scholars in reference to the integration of technology to the creative process. Also, in contrast with the UBA Phonology Lab, now with sufficient technical resources optimized by Reichenbach's ingenuity and Walter Guth's expertise, CLAEM's laboratory's production was prolific.

Fig. 1. Fernando von Reichenbach with his Graphic-analogic Converter in the only known photo of the CICMAT's Lab and the Space distribution device at the Instituto Torcuato Di Tella's Lab. Source: Archivo von Reichenbach

In this framework Reichenbach excelled by his inventiveness in creating innovative machines with rudimentary resources. Apart from his most famous device, the Graphic-analogue Converter that he managed to patent in the US, he developed projects with photo-sensitive sensors that up to then had not been acknowledged in writing. Found among those is the space distribution device, which played a key role in the presentation of the piece *Mnemon I* by José Maranzano on December 11, 1970 (Castañeira de Dios 2011: 123). In this device built with Meccano set pieces, and acetate roll with different degrees of transparency was moved allowing the graduation of light directed at photosensitive cells connected to six loudspeakers distributed in the hall of the ITDT. Each

roll, specially designed for each music piece worked as an automatic specialization. In *Mnemon I*, also arranged by the Graphic-analogue Converter, we can see how in those years an integration between musical composition and technological design was achieved. Reichenbach's machines were the most publicized and interdisciplinary projects of the ITDT. They motivated the visit of one of the most watched news program. The inventors reply to the journalist's inquiry on the machine's cost is another testimony of the developmentalist ambitions of the time:

> Journalist: how much does this machine cost, being the only one of his kind? Reichenbach: well, the cost isn't that important as what is left. With around 6 thousand dollars we could have the first laboratory in the world (…). (Archivo von Reichenbach, ITDT.BQS.FFVR-CLAEM-VHS84)

As it was in Reichenbach's case, in the stories of the producers that passed through ITDT the reference to a feeling of power and freedom is a common thread. This is due to the fact that the funding policy wasn't presented in terms of retribution –that is, that blind loyalty to the US wasn't expected of anyone. The Pan-American project for the arts (unlike the political and economic ones) didn't care for intervening in production since its goals was to distinguish itself from the interventionist policies of the communist bloc. Andrea Giunta analyzes:

> The US efforts consisted in articulating a system of propaganda that aimed at continuously exhibiting proof of what neighbors they are. The saturation of discourse with notions of "trading", "friendship", "interest" or "pluralism" and the succession of meetings to favor dialogue and acknowledge Latin-American issues and value their cultural work constituted the axis of American strategy to neutralize the incidence of the Cuban Revolution in the Latin American artistic and intellectual scene. (2001: 297)

In fact, a shift in focus took place in production from the concern in transforming formal structures to the need to reflect on the practice in relation to society's issues. This reflection turned artist into intellectuals that, in addition to thinking about the correct forms to respond to the need of political involvement, intervene directly in the public scene under the feeling that they possess the capacity of "jeopardizing the current values in the society they belong to and contribute in funding an alternative order" (Giunta 2001: 264). For this author, this process puts the problem on the autonomy of art both in what refers to the incorporation of narrative elements as well as the anti-institutional and normative component. This process didn't happen in music in the same way, as Novoa indicates (2007: 76). On one hand, differing from other areas in the ITDT, the CLAEM was a pedagogical institution, and the artists, students under a scholarship. On the other hand, the public projection, according to composer Gerardo Gandini (King 1989: 406) was throughout concerts and festivals, that is, through traditional institutional distribution. In that sense, Omar Corrado, when talking about the processes of significance in argentine contemporary music, indicates that the social-political relationship is one of the most algid points in his view. Following that same line of self-imposed moderation of the expressive with the goal of avoiding "pathetism" or "sentimental inflation", for the author this music kept the line of aesthetic autonomy, "obsessively resilient to reveal itself as social context" (1998:29).

An example of this attitude evidences itself in the opinions of Kröpfl on the political context, where musical practice and political positions are situated in different terrains. When referring to the politicization of visual and theatrical art areas within ITDT, the composer reflects on the administrative awkwardness and difficulty that sharing an institutional space meant:

> [It was difficult, being associated to the ITDT] of course, because of that, because of ideological connotations. But no, it wasn't a…. let's say that Di Tella didn't constitute a political movement of sorts. But as some aspects of the artistic activities reached a breaking point, where art started to make ideological points, things turned difficult. And anyone willing to move to other branches, like in music was already impregnated with the connotation of the Di Tella Institute. That was a major setback in the development of the movement. (King 1989: 405).

If self-defining the activity as "movement" addresses the avant-garde imaginary, and a clear distinction between art and politics is established, adopting technical progress, independence and critical autonomy as a "cause", institutional work becomes seriously problematic, along with the dependence to political climates that this way of funding brought. At this point the question emerges regarding Kröpfl's response to this conflict, the aesthetic concept that refers to the relationship between music and social context, with the famous statement on this issue from American composer Milton Babbitt in "Who cares if you listen?" in 1958. After a diminished argument justifying the contemporary music's isolation due to the specificity of its language –that inevitably excludes the elements that didn't go through the learning process– the author proposes:

> (…) the composer would make himself and his music and immediate and eventual service, by withdrawing willingly, totally, and voluntarily from this public world into one of private performances and electronic means, conforming the most real possibility of eliminating the public and social aspects of music composition. (Babbitt 1958: 126)

This type of composition that rids itself of "public and social aspects" ought to be funded, as the author suggests, by Universities in the same way that important areas of science such as math are funded. The efforts, then, would be orientated to benefit universal production of knowledge carried out by ascetic composers, practically unknown to the general public. As American musicologist Richard Taruskin points out, Babbitt's Ideal worked perfectly, in a few years an expansion process took place across US college campuses in the fields of advanced composition –reaching PhD standards– as well as music theory, which had repercussions in the infrastructure, in the form of labs and concert halls exclusive enough to avoid "exhibitionism".

Fig. 2. The professors-researchers in the press photo taken on the occasion of the inauguration of CICMAT. Source: "Milagro en las alturas", Panorama, Nº 292, 30 de noviembre de 1972, p. 60

CLAEM partly fulfilled this goal. Nevertheless, after the Rockefeller Foundation's funding ended and the ITDT closed, the economic situation and political dynamics comprised in CICMAT the autonomy of a not at all metaphoric way. The professor-investigators now turned municipal workers had to incorporate the concept of "community service" to the agenda and the public discourse. However, my hypothesis is that the contradiction between autonomy and financing remained, confining autonomous music to a private environment with little to no circulation. The pieces were presented with performances for a limited audience in uncomfortable schedules, without official editions and kept in a single open tape copy. The exposition to the public of sounds produced under commission as "Community service" was inverse. It was the case of soundtracks for the General San Martin Theatre, the Planetarium, Municipal Radio, and, perhaps the most famous and less documented case, the fountain in the Dos Congresos Square. In this sense, the change of administration in 1973 intensified the conflict even more. When referring to the taking of office of Alfredo Policastro as CICMAT's director, replacing Jose Maria Paoloantonio, his first act as director was to create the "department of national creativity", Kröpfl draws attention to the double otherness that his figure represented to the Peronist officials:

> There was a lot of coming and going, until finally the semiologist group in charge of Mass Communication and the folks running the graphic team quit and we were left so as not to lose the theme of the Lab and our activities. In 73, I was fired from the School of Architecture because I was perceived as an elitist. It is curious that to leftist Peronists I was an elitist and to right-wing Peronists I was a Marxist, and that was their excuse to close CICMAT (Orobigt et al. 2003: 91)

As sociologist Sebastian Carassai points out, towards 1973 the middle class wasn't actively involved in politics, however they maintained "non Peronist sensibility" as a result of anti-Peronism that was characteristic of this class during Peronist government between '46 and '55. Among the reasons that the author finds to justify this position is the "anti-cultural premise, (…) anti-intellectualism, (…) the exacerbation of emotional and passion elements in the masses in detriment of rationality" (2013: 26). These sectors saw themselves as "autonomous and free thinkers". As a consequence, the threat of

"Peronism, experienced as a fascist, dictatorial, immoral or anti cultural regime" represented to the intended autonomy of the class as a whole, was twice as uncomfortable to the liberal professionals that justified their activities in the beginning.

For the time being the information on CICMAT is scarce. The almost six years of activities in the lab between 72 and 77 never were the subject of research and is only considered as a transition between CLAEM and LIPM (Laboratorio de Investigación y Producción Musical)[2]. According to the testimony of some of its participants, with the closing of CICMAT came the destruction of all administrative information. But, part of the audio tapes and some documents were saved on Reichenbach's initiative and form the newly created archive in the University of Quilmes. These documents, that are being essential in the task of reconstructing the activity, are an eloquent account of the subject at hand. The purpose of the next excerpt is to mention parting from the analysis of some of them, the other positions that presented a counterpoint to the aesthetic of autonomy in the developmentalist period.

4 Latinamericanism and new music

Since the military coup of '55 until '73 Peronism was outlawed. Its' leader, from exile first in Latin American countries and mostly in Madrid, continued to be the highest authority in the movement. His speeches had to appeal to Peronist coming from all social classes. Students, workers, servicemen and businessmen, representing the political spectrum from left to right. Since 1955 political violence coming from the state and towards all factions intensified. From 1972 the return of Peron to Argentina was necessary to maintain the institutional order endangered by popular violence since 1966. Up until his arrival in '73, the leader maintained fluid relations with each sector of the movement that arranged electoral fronts once the political ban had been lifted. After winning the elections, Peronism developed its activities both by renovating public administration as well as by engaging in armed revolutionary and paramilitary struggle. The argentine historian Maristella Svampa indicates that public support for progressive and revolutionary sectors had turned Peron into "the Man", with a tone that exacerbated the masculine figure as a charismatic messiah. Through speeches given from his exile he managed to establish alliances between catholic, nationalist and leftist sectors:

> In the practical policy of the Leader, the National Justicialist Movement was, above all, the art of discursive contradiction. In effect, as the years and generations went by, Peron's speech turned to a sort of holy book in which you could always find two contradictory answers to the same question. (Svampa 2003: 403)

Once in government, Peron withdrew his support to the left, starting a war within the movement. The premise of "National Unity" was broadcasted through all official channels belonging to different factions. This is the case of the new administration of CICMAT that incorporated party quotes to the modernist agenda.

2See for instance Monjeau 2002, Dal Farra 2006, Orbigt et alt. 2003, Herrera 2011, Chadabe 1996, Aharonian 1992

Fig. 3. Cover of the "Cuaderno CICMAT 5", with the Peron's quotation "Every argentine man should know what his mission is and fulfill it" and second page that announcing the premiere of the piece of Graciela Paraskevaídis "Magma". Source: Archivo von Reichenbach

While the transformation of the administrative structure in '73 and '74 are yet to be determined in detail, the first materials found allow us to have an eloquent account of the change in situation. The partially preserved institutional document "Cuaderno CICMAT 5" with the Peron's quote about "missions" in the cover, distributed in July and august of 1974 gives proof of the creation department for "projection and dynamics of national culture" and of a lecture by the new director Alfredo Policastro entitled "Argentine culture as a geopolitical factor". Another of these documents from May 1975, which creation is attributed to the area of "artistic communication, theatrical research division" acknowledges the event of a national gathering of theatre authors. Citing Peron exclusively, among all of the conclusions that the participants arrived at there was the need to create a "national and popular" language and to avoid foreign infiltration opposing the vital "popular culture" embodied in theatre help to revert the process of "morally destroying the argentine man" (Cuaderno CICMAT). Far from aesthetic autonomy these groups, denominated by investigator Lorena Verzero as "militante (activist) theatre", were reached by the politicization process and developed their activities according to their revolutionary commitment. Theatrical activity –says the author– due to its immediacy, economy and materiality presented "special conditions" for the artist that "pursued a deep social transformation based, in schematic terms, in the modification of the dynamics of domination, the end of dependence and the socialization of the means of production"

(2013: 383). As mentioned before, the lab was expected to produce electronic sound as "service to the community", according to the initial project. One of the result of these transactions is "CICMAT Informa", an institutional newscast dating to July of 1974 devoted to de broadcast of "global thoughts of Lieutenant General Juan Domingo Peron" where the *domesticated* electronic sounds (Taylor 2012: 391) produce a framework for the well-known developmentalist prestige within party propaganda amidst the political crisis during the "anti-imperialist" period.

"(…) City of Buenos Aires, Argentina, Latin America" says the anchorwoman locating herself while presenting "CICMAT Informa". This tape was not found in the archives of Municipal Radio, had were actually destroyed. But in a radio phonic collage by composer Eduardo Bértola, trained in the institutes mentioned above and in Paris that worked during those years as a radio technician. *Trovas, crónicas y epigramas* is comprised of different radio and TV recordings lineally disposed almost without cuts or overlaps, conceived like *Tramos* to be interposed between instrumental pieces in a concert (Paraskevaídis 2001: 21). In this 22 minute piece are presented without mediation both political and aesthetic problems. This quotation music evidences acousmatic devices, violence as a spectacle, perception of foreign broadcasting in neutral Spanish, Latin American identity and Peronism. In the previous fragment, Jorge Luis Borges' voice answers the question: "where do you think Latin American culture is heading?":

> I don't know to what degree we can talk about Latin America… since it's a very vast region… and… has many and great ethnic differences….and… whose history does not coincide. With the exception of Uruguay and Argentina. (…) I don't know to what degree, outside of language, a community, a brotherhood can exist, between Mexico, Colombia, Argentina and of course, Brazil. I believe the word "Latin America" responds simply to a sense of comfort, to a need of simplifying things but I don't know to what degree it responds to a feeling (…). (Bértola *Trovas, crónicas y epigramas* 12'30'')

As composer Graciela Paraskevaídis said, Bértola proposed in those years a "poor electronic music" in consonance with his commitment to the Latin Americanist cause, that other composer like him reunited periodically in the Courses of Latin American Contemporary Music maintained. Bértola's position can be seen in the critics he made to the idealization of European teachings:

> I believe that in order to be an artist it's necessary to be first a man, to assume all the social responsibilities and to define oneself politically. In Europe, I've learnt to know Latin America and I believe more and more in it, in its social revolution and its' cultural liberation. I think that Argentina, specially, has been and still is a cultural colony to France and its' myths. Ours is a generation that must fight until cultural liberation is achieved; the first task it's' to destroy the myths that the Argentine Oligarchy has constructed to their own self-prestige and status. It's necessary to look at Europe with critical eyes and learn to know oneself. (Paraskevaídis 2001: 19)

In the assessment by Uruguayan compose Coriun Aharonian (2012) both in the Phonology Lab as well as CLAEM were one of the "attempts to repeat the metropolitan model of a "big" studio (…)". About the phonology lab he said: "the studio is big and expensive, but it produces relatively few works in its' long years of existence". This critic will also be sustained by another composer, Oscar Bazan in his series *Austeras*, the electroacoustic works produced under the premise of economizing to the maximum on technological resources provided by the lab. The actors agree, however, in that the richness of these

institutions was not so much technological rather that in the framework of pedagogical updating that allowed the existence of diverse poetics. Among these, those who reflected on the relationship between music and society, which in most cases aimed at Latin American identity –in contrast with European and North American aesthetic models– more than participating in public activities (like it happened with visual arts and theatre). This distancing is often argued as resistance to the cultural industry, retrieving to some extent the ideals of Adorno on the authenticity of autonomous art and "the dialect of solitude" (Adorno 2004, Subotnik 1976), which in cases like the Latin American Courses on Contemporary music, also, addressed the avant-garde anti institutionalism. Corrado refers to this process as one of the alternative means towards serialism, as long as "the buffering of a new reflection on our identity, critical both of folklorizing solutions as well of the Universalist mirage":

> He signs in the context that a musician produces his work here would lie –according to composers like Etkin, Paraskevaídis or Aharonian on the subject of sound, its texture, its immediacy, its sensuality, as foundation for the creative process– in the intensive exploration of dynamic and pitch registry, in the expressive value of silence, in the repetitive process, in accidental, discursive, non-dialectic nor discursive forms, metaphorizing landscapes and ways of being in America. This concept, opposed to the European musical paradigm, could result thus in a counter model (…). (Corrado 2011, 14)

Just like in other even more radical avant-garde musical groups, like the Movement Music Plus (MMM), which took free improvisation to the street (Raffo Dewar 2012: 151), the solidarity with resistance movements referenced once again to the musical material's own universe. Even though in a different way that the abstract pieces, this attitude continues in the distancing from political practices. The history of the reception of this pieces is still pending. Have more information about this will help to have a clearer idea of the relations between political discourse and social impact that these productions had.

5 Conclusion: a mission for every one

The seventies in Argentina were a time in which political and social factors set up to build a modern and developed country. This process was signed by conflict and tensions that developed all over society. In the case of artistic work, since the mid 70's, policy became a central issue, replacing the interest for technical innovation –characteristic of developmentalism– towards an active role in the revolutionary process. In matters of art music produced in multidisciplinary institution and with eminent developmentalist origins, the relationship with politics didn't happen in the same way that with other forms of art. Some of its protagonist saw the need for involvement with political power in order to guarantee the continuity of the lab, originally funded by the Rockefeller foundation as part of the Pan-American strategy set to avoid communist proliferation. Others, in solidarity with revolutionary movements, made politics explicit in their work and saw in the lab an example of "neo colonialism", local representative of the metropolis endorsing a monopoly over the means of producing electronic sound. Both groups kept their labor under an aesthetics of autonomy always centered on the development of materials rather in public action. The case of Eduardo Bértola, whose instrumental work deals with spectral exploration (Paraskevaídis 2001; Freire & Rodrigues 1999), is perhaps the most extreme: in his radiophonic collages political speech was transformed into music material**.**

With the rise of Peronism to power in '73-´76 both tension and illusion intensified. An optimistic tone was common many diverse projects. Whether it was about the evolution of a particular language or the transformation and resolution of social contradictions, there was a strong conviction of everything that was to be done and had the potential to do so in the environment. In a framework of extreme violence, Peron ends one of his last speeches, "Every argentine man should know what his mission is and fulfill it", while proclaiming a new strategic plan, with a reference towards art:

> I know, because I have seen it, about some wonderful plans in other countries I've been in; perfect plans, but that could not have been carried out. It is as if there had been any plans at all. A work of art does lie within conceiving a thing, but achieving it. (Peron 1974)

Contradictory projects and works shared space. Most of them were either partially or never carried out. The intent of this work was to add new information on the project of reconstruction of CICMAT's activity, the institution where electronic music was faced head on with the contradiction between funding and autonomy, and which still unknown body of work contained within tapes is a unusual part of acoustic collective memory of a city in the years where no scene was a stranger to politics.

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30. Anonymous Flows and Decentred Listening: Non-Anthropocentric Practices in the Sonic Arts

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Abstract. The sonic arts have witnessed a proliferation of non-anthropocentric practices in recent years. In this paper, I will explore a number of them, ranging from the investigation of sounds beyond the range of human hearing to the exploration of alternate modes of perception or of nonhuman sonic flows. I will highlight their far-reaching implications not only for the sonic arts but also for media theory and the aesthetics and philosophy of sound.

Keywords: non-anthropocentric, nonhuman, listening, sonic flows.

The sonic arts have witnessed a proliferation of non-anthropocentric practices in recent years. In this paper, I will explore a number of them, ranging from the investigation of sounds beyond the range of human hearing to the exploration of alternate modes of perception or of nonhuman sonic flows. I will highlight their far-reaching implications for the sonic arts and show that they also tie in with ongoing developments in media theory and the aesthetics and philosophy of sound.

Early examples of such sonic practices are to be found in the works of American composer Alvin Lucier, even though they may not have been described in these terms at the time. For his most influential work, *I am Sitting in a Room* (1970), Lucier recorded the sound of his speaking voice, playing it back into the room again and again till the resonant frequencies of the space reinforced themselves, articulated by his speech. Here, as in other works, Lucier thinks of sounds not so much as high or low musical notes produced for the listener's enjoyment as in terms of measurable wavelengths (Kahn, 2009: 24) - which suggests a less human-centred aesthetics. Furthermore, Lucier's work is concerned not only with immersion and its focus on the listener, but also with propagation, i.e. the distance that a sound has travelled from its source and the extent to which it has been altered by the intervening medium (Kahn, 2009: 26). Unlike immersion, propagation decentres the listener, affirming the primacy of sound.

In the last decade or so, artists have been reworking these and related ideas in a variety of ways. Take Jem Finer's *Longplayer* (1999-2000), a one thousand year long musical composition launched on 31 December 1999, that will play without repeating itself until the final moment of 2999, at which point it will begin a new cycle. *Longplayer* downplays the centrality of the human subject through multiple references to mortality and obsolescence. For a start, its millennial duration contrasts with the brevity of human life, making the latter seem insignificant and irrelevant. Over and above human mortality however, it also addresses that of digital technology, one of humanity's major achievements. For even though *Longplayer* is currently performed by computers, it was created with full knowledge of that technology's inevitable obsolescence – which explains why research is under way into alternative methods of performance, including mechanical, non-electrical and human-

operated versions. *Longplayer* is furthermore composed for singing bowls, an ancient Tibetan tradition. It thereby associates past and present, while connecting with evolutionary processes, as Kodwo Eshun writes:

> *Longplayer* has existed on Earth, for centuries, in the shape of alloy bowls. More exactly, *Longplayer* existed in the sum of emergent processes that gave the alloy bowls their unique 'singing' property. Looked at more closely, it's clear that hundreds of years' experience of the physical thresholds of metallization allowed the Buddhist monks to harness the inharmonic frequencies of bronze... By multiplying the number of bowls, the metallurgist monks transposed and combined the layers of sound through the emergent process of additive synthesis to create unforeheard new timbres... [*Longplayer* is a means of harnessing] the emergent properties of the self-organizing processes of organic and non-organic life. It is a means of tapping into the material flows of the planet (Eshun, 2003).

Nick Knouf's *Aetherspace* (2005) explores nonhuman flows of a different kind. The starting-point of his piece is the concept of 'Hertzian space', defined by researcher Anthony Dunne as the architecture of the physical interactivity between a device and a person, or in other words, the invisible interface between electromagnetic waves and human experiences. For Knouf, *Aetherspace* is a means of making Hertzian space perceptible: it consists of a wearable computing garment in the shape of a collar that picks up various components of Hertzian space - microwaves, ultraviolet, infrared and radio waves - as the user walks around his home, workplace or urban environment. Turning these waves into a sonic representation of the invisible aether, it demonstrates what a cell phone sounds like when lying in its owner's bag or signals the presence of dangerous electro-magnetic waves. It can even be programmed to emit an unpleasant screeching noise when it picks up dangerous radiation, thereby affecting the way the listener interacts with the space. It also offers access to normally unknowable worlds, as media theorist Eleni Ikoniadou points out:

> The garment could be said to interact directly with the energetic potential of spaces, inviting us to rethink human experience outside the knowable sphere... Despite the vast spectrum of rhythms running independently across electronic milieus, our limiting definitions (of perception) only ever describe a tiny part of it (Ikoniadou, 2014: 57).

Hidden forces beyond the limits of human perception are also addressed by the audio-visual installation *The Dark Side of the Cell* (2004). Devised by nanoscientist Andrew Pelling and media artist Anne Niemetz, the installation explores the phenomenon of cellular sound, i.e. the sound of living cells, which are the smallest building blocks of the universe. The work consists of a collection of small speakers and cell sculptures installed in a dark room. An Atomic Force Microscope or AFM with a silicon tip attached to it, scans the surfaces of the sculptures recording their topography. Like the needle of a record player, it 'plays' the cell by feeling the oscillations taking place at its membrane. These electrical signals are then amplified by the speakers of the installation so as to make them audible. Over and above these audible sounds however, visitors also become aware of the nano-world lying beneath these perceptions, a world that exceeds our observations and hearing capabilities. The coupling of the instrument and the cell, as Ikoniadou points out,

"does not simply extrapolate the small scales to the macrolevel of perception proper. Instead it exposes the more obscure zones of experience as it crosses over to the nonhuman sphere" (Ikoniadou, 2014: 50).

Non-anthropocentrism is also surfacing in media theory and other theoretical approaches to sound. As Eleni Ikoniadou emphasizes in her book *The Rhythmic Event: Art, Media, and the Sonic* (2014), with reference to projects such as *The Dark Side of the Cell* and *Aetherspace*:

> The situations these works effectuate (between biological and technological entities, discrete and continuous aesthetics, virtual and actual zones) can be approached as no longer requiring the active participation of human perception or belonging to a cognitive subject. Rather, these events shape our understanding of perception as potentially nonconscious, nonsensory, and emptied from lived time (Ikoniadou, 2014: 85).

Sonic thought has its part to play here, for according to Ikoniadou it affords "an entry to the autonomy, invisibility, and molecularity of the event, as it subsists outside sensory perception and linear time" (Ikoniadou, 2014: 85).

Christoph Cox espouses an approach to sound that likewise questions linear time and the boundaries of human experience. He takes his cue from John Cage, stating that the aim of the latter's *4'33"* (1952) "is to open time to the experience of duration... It is also to open human experience to something beyond it: the nonhuman, impersonal flow that precedes and exceeds it" (Cox, 2006: 5). Cox gives the example of Chris Kubick's *Hum Minus Human* (2012), a catalogue of drones collected by searching for the keyword 'hum' in a commercial sound effects archive and removing results that consisted of human sounds. The piece associates sounds of nature, culture and industry, sounds ranging from light transformers to bumble bees that are part of our everyday lives. As Cox points out:

> In one sense, the 'minus human' in the title simply describes a search function. But it has a broader significance as well, attuning us to that Cagean, Nietzschean, Schopenhauerian sonic flux that precedes and exceeds human being (Cox, 2015: 129).

Raviv Ganchrow likewise decentres the listening subject in his research into Wave Field Synthesis - a spatial audio rendering technique where the localization of virtual sources is independent of the listener's position. In his article "Phased Space", Ganchrow describes the way Wave Field Synthesis acts on the air itself, giving vibration spatial contours. He notes that every ear forms a locus through which durations take hold, and that it is only after consecutive phases have extended into durations that acoustics gives way to aural and spatial sensations (Ganchrow, 2010: 182). In other words, in WFS, sound remains concealed until the moment when auditory perception occurs (Ganchrow, 2010: 183), and the moment of listening is revealed as no more than the end point of the process of the coming into being of sound itself.

However another kind of decentring also takes place. Ganchrow argues that the functioning of WFS, whereby sound remains concealed until it is heard, presents certain

parallels with the work of the physicist Ernst Mach. For Mach refused any kind of separation between inside and outside, between sensations and the external things that are different from them and to which they correspond, proposing instead that there are only elements that are inside or outside depending on the standpoint from which they are viewed (Ganchrow, 2010: 183). As Ganchrow writes:

> Mach's proposed realm of 'elements' simultaneously implicates the 'perceiver' and the 'perceived' from a single referential construct where both the 'thing' and the discreet 'ego' are simply viewed as alternating pattern-bundles composed of common blocks... If we were to take the elements and arrange them one way, the 'self' is denoted, pick them up and arrange them again, and the 'thing' appears (Ganchrow, 2016: 184).

Seen from this angle, the perceiver and the perceived in WFS can also be regarded as two facets of a single construct. Here, the centrality of the listening subject is once again undermined.

Finally, in his book *The Order of Sounds: A Sonorous Archipelago* (2016), François J. Bonnet explores ways in which sound challenges perceptual givens, for instance by relating it to Georges Bataille's notion of the *informe*. He points out that the *informe* awakens something indistinct, unclassifiable, that is recognized as unrecognizable (Bonnet: 2016: 285). He writes: "It is *formal indecision*, a transgression and a contestation of form, working constantly at its dissolution. Faced with the *informe*, the attitude of perception can only be that of disarray" (Bonnet: 2016: 284). Further on his book, he mentions the imperceptible, which makes the perceiving subject incapable of perceiving himself as a coherent entity:

> The imperceptible constrains the sensible relation to remain within a non-authoritarian modality. No structure, no fixed distribution between subject, object, and structure, can be convoked. The perceiving subject is deprived of his nodal principle, of his role as the great collector of the sensible (Bonnet, 2016: 291).

He concludes: "Like the *informe*, the imperceptible breaks from perceptual certainties by leading listening into free... zones" (Bonnet, 2016: 293). It is only in free listening zones such as these that we can discern Cox's nonhuman sonic flows, experience Ikoniadou's nonsensory perception and enter into the relation between perceiver and perceived that Ganchrow sketches out.

As we have seen, the decentring of the human subject has far-reaching consequences for sonic practice: the artist's role is minimized in favour of that of sound and space, while the artwork eludes human intentionality and the listener's ears are opened to new and inexplicable sounds. Bonnet describes these changes in similar terms: "There can be no doubt: the listening that understands, reads, hears, the listening that explains itself and explains the world, has had its day... Listening must no longer exclusively provide solace, read, and decode" (Bonnet, 2016: 331-332). If Bonnet is correct in claiming that listening has entered a new, decentred era that makes room for all kinds of hitherto marginalized

sounds, then the theories and practices I have discussed in this paper are not just disparate occurrences but signs of this new beginning.

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31. "Ta [p] Chas"[1]: Transculturation, heterogeneity and hybridity in Peruvian electroacoustic music in the sixties generation.

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Abstract: This article reviews the compositional practice of Peruvian electroacoustic music in the sixties generation, to explore the sources and methods of influence on music and new technologies at that time. Furthermore, it explores the local expressions, the national or regional identities through the use of elements of folk and traditional music in the electroacoustic music of this generation. The study and analysis of this repertoire, from a cross-cultural perspective, should shed a new light on the history of experimental art music in Peru and its originality. One of the difficulties respecting this movement is the definition of cultural influences in electroacoustic music, given that the genre invites to the abandonment or radical redefinition of the traditional characteristics of form, tonality, harmony, melody and structure of time. Thus, the problem becomes one of recognizing and defining cultural influences in music that no longer relies on traditional structures, opening a space to question how to define the cultural and ethnic influences in this music when we abandon the traditional means of expression of this community.[2] This paper presents a framework to examine the ethnomusicology of Peruvian electroacoustic music from a heterogeneous point of view.

1 Introduction

The vast majority of musicological literature in the field of electroacoustic music has focused on the properties of spectromorphology[3]. In recent years, there has been a focus on methodological analysis which takes into account the interaction between Western art music and other local musical cultures allowing researchers to write about the music history of former colonies that respect their particular conditions[4], and involving local composers who are familiar with their own music and musicians. There is relatively little research focusing on the aesthetic, technical and musical history of Peruvian Electroacoustic music. The present article addresses some of these concerns and tries to present a more coherent and global analysis of the Peruvian vanguard to the West and back to the Creole and indigenous population.

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1 The name Ta [p] Chas, is taken from the sound made by the Sicu, an Andean wind instrument, through a click of the tongue (as in the repetition of the phoneme «ta» or «chá» while it blows).

2 Also consider Peter Rothbart's question about what is understood by an "ethno-electronic analysis". See Rothbart, Peter. 2012.

3 The analysis of the morphology of sound is useful to describe and study the experience of listening and provides a framework for understanding structural relationships and behaviours, as they are experienced in the temporal flow of sound. To discuss the relationship and evolution of electronic music and sound art it is necessary to refer to the technological development, which raised a number of technical issues that modified the way instruments were played raising problems such as authorship, distribution and commercialization of sound materials. Only since the creation of sound reproduction and sound recording systems at the end of the XIX century, did sound begin to be considered an object.

4 By particular conditions, I refer to the cultural influence that is acquired, which is not limited to the social structures of the past and present history; the socio-economic status, geography, past and present religious or spiritual influences, education, political influences and preferences, identification of gender, as well as aesthetic and philosophical trends and exposures. The musical result is a consequence of the convergence of these influences.

In this way, it proposes to examine the notion of "productive illegibility" in the so-called Peruvian musical vanguard of the 60s. To do this, we raised the following questions: what does the proposal of an "illegible" speech imply? i.e., what does the proposal of an "errant" musical narration, a "hybrid speech" as artistic project or as a strategy for cultural imagination imply? What would the textual, political and cultural productivity of the figure of the "illegible" be?[5] These are the central questions we intend to address while hoping to provide a gateway into Peruvian musical modernity through a series of scenes of "illegibility" that emerge in the areas of passage and friction between different codes and significant systems, visual and musical practices, orality and writing, between academia and performativity, between musical tradition and popular or mass culture which are often scenes of negotiation of intercultural relationship.

The present article focuses on different times and practices that have abandoned the model of Western academic folk music, and are derived from a semiotic, cultural or socio-political "Other". These times and practices have geared towards other manifestations and the use of "non-scholarly" spaces, such as orality of popular culture, global media "visuality for masses", or performative practices of contemporary art culture. The general idea is to open a dialogue around the theoretical reflection on Modernity and of recent developments in the field of electroacoustic history in Peru, starting from the testimonies and reflections of the composers within a critical Latin-Americanist tradition and from the discussion of inter-cultural relationships based on concepts such as transculturation, heterogeneity, and hybridity. (Rebaza Soraluz Luis, 2000). The questions of *from where* and *where to* clarifies the supports given depended on the idea of Nationalism and this investigation also intends to highlight its importance today.

Therefore, it will tend towards the current academic discussions on the future role of the Peruvian composers and the implications of these roles within that generation of electroacoustic music. This generation of the sixties turned out to be the result of two key decisions that the composers of this generation faced. To explain the first, we will take as a reference a newspaper article from 1957, where we can see the polarization in which Peruvian academic music was immersed: "the musical establishment in Peru (if we can call it musical creation at all), has always been governed by two irreconcilable affiliations: narrow chauvinism and Europeanizing creeds. Until seven years ago, almost all self-proclaimed Peruvian musicians either rejected or adhered to one of these two options. Perhaps it is for this reason that until then the musical history of Peru constituted a mere collection of autochthonous material or digressions about imported styles".[6] For this task imagination is called in to assist in speculating the meaning of the chronicles. Firstly, it must be pointed out, as Jonathan Sterne does very clearly in what he calls *sonic imaginations*, that: "We must not automatically take any discourse about sound on its own terms, but rather interrogate the terms upon which it is built. We must attend to the formations of power and subjectivity with which various knowledges transact". (Sterne 2012: 9).

On the other hand, the consequences of choosing and retaining the abstract sounds of their cultural connections have a deep impact on political identity. Sounds can impose their story about the compositions, or cancel this effect by being treated as any other "concrete

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5With regard to the relations between illegibility and language, Adorno warns "Intentional language wants to mediate the absolute, and the absolute escapes language for every specific intention, leaves each one behind because each is limited. Music finds the absolute immediately, but at the moment of discovery it becomes obscured, just as too powerful a light dazzles the eyes, preventing them from seeing things which are perfectly visible."(2000:28). Although it will not be discussed in this article, the relationship between music and literature in music, particularly electroacoustic has been widely exploited (cf. especially by Landy, 2007) and is helpful in explaining, at least to some extent, the process of verbalization of the abstract that will be treated here.

6 Anonymous, "Contemporary music in Peru", seminar in Peru, April 3rd, 1957.

sound" [7], chosen for functional other than cultural associations. Both routes are feasible and although the results may not transcend the line that separates speculation from certainty, they promise to give birth to new forms of questioning our relationships with sound practices of that and the current time.

2 Time and work of a generation

"Huayno is like the clear and detailed footprint that the mestizo people continue to leave on their never-ending path of salvation and creation. All life has been invested in Huayno, all the moments of pain, of joy, of terrible fighting, and all the moments that have found light and the exit to the big world as to be like the best and yield as the best. [...]Today's Indian and mestizo, like that of 100 years ago, still find in this music the whole expression of their spirit and all of their emotions. (Arguedas, 1977: 7)

Until the nineteen forties, Peru was a predominantly rural and indigenous country which experienced a strong process of centralization producing a massive migration to the urban centre of the country (Lima). As a result, not surprisingly, in the year 1946 there was a remarkable number of young people applying to the newly created Conservatory, coinciding with the "generation of the thirties", which marks the best years of the Peruvian musical vanguard. Names like Edgar Valcárcel, Enrique Pinilla, Celso Garrido- Lecca and César Bolaños, among others, would be responsible for introducing Peru into the musical languages of the international avant-garde.

Peru and most of Latin America, has been characterized by a social and artistic stance which, still today, seems to be irreconcilable with the big questions: Is it possible to establish a single cannon for the wide variety of Latin American music that a broad range of social groups enjoy? How do we speak, then, of the diversity of music in Latin America? These questions can be summed up in the words of Peruvian musicologist Julio Mendívil who says: "I don't think that music has ethnic marks. I believe that ethnic marks are invented in the tradition of what we call traditional and in the traditions that we invent in non-traditional societies, they differ in degree, in the reading of the material". (Mendivil July, 2016). This material in Peru of the 1930, had its musical version based on the concept of the indigenous, the recovery of the native image for music and the use of the pentatonic characteristics of Andean folk music melodies. This generation includes composers like Luis Duncker Lavalle, Manuel Aguirre, Roberto Carpio, Ernesto López Mindreau, Carlos Sánchez Málaga, Alomía Robles, Theodoro Valcárcel and, linked to them, the cosmopolitan Alfonso de Silva. By the 1940s this musical movement was already in decline.

Later, the major challenge for this new generation of composers was to achieve a musical balance that picked up the best of both scenarios, without forcing a search that could result in a "touristic" approach to indigenous music fused with the European trends prevailing at that time. The cultural and technological backwardness under which not only

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7Sound experimentation and evolution are particularly related to technological progress, especially with the improvement of recording and capture equipment; technologies that disassociated the sound from its source, making it an object for further manipulation (copy, cut, paste, reverse, etc.) This made the production of new works from sounds possible, pieces detached from the traditional idea of harmony. With this, a sound taken from any source or produced synthetically, may be the starting material of a sound piece and in each one of them there is a universe of sound and expressive information that the artist can manipulate at will.

Peru, but also the whole region, suffered did not provide the necessary conditions for further education, reason why the majority of Peruvian composers emigrated.

The role of César Bolaños in this musical revolution is fundamental. In 1958 he travelled to New York to enrol at the Manhattan School of Music. On the other hand, and after evidencing that the academic differences were mere disciplinary distinctions, the composer decided to assist to a course in electronics at the RCA School of Electronic Technology. This would be of vital importance in his later musical development and would prove not to be the only "happy accident" during his time in New York.

In 1961, in the company of Edgar Valcárcel he attended a concert given by the Argentinian musician Alberto Ginastera. Ginastera invited them both to apply with their work for a grant offering twelve scholarships to the first generation of student fellows of the Latin American Centre of Musical High Studies of the Di Tella Institute (CLAEM). The institute's intention was to level and transform the considerable musical delay in the region. Concerning this issue Valcárcel wrote: "the essential features of this new generation are the following, in the terminology of Díaz Plaja: the burden factor would be the echo of our musicians under the influence of a westernising tendency;" the typical factor would be that which is our present, i.e., a marked atonality within free conceptions. Finally, the future factor, a nationalism perceived in more than one young composer; a nationalism free of rhapsodists, born of the intimate union of the blood and the spirit of the musician, with his soil and with all that he owns as a Peruvian. In other words, a telluric nationalism, free of all decadent sentimentality, wrought with experiences and exempt from any receptive trend, passive and copyist, almost photographic". [8]

Edgar Valcárcel called this process of contact with the international academic world "a stage of updating", a crucial moment in the context of Peruvian music: it is not only the accession to a musical cultural model but also the beginning of the musical searches of a new generation of composers who want to distinguish themselves from the articulate picturesqueness that identified the previous musical generation known as the indigenist movement. The claim to represent a national music could not be reduced to the mere quote of a folk melody attached to a classical piece, instead such pretentions also required an awareness of the new modes of being that urban life had established. In 1956 with regard to the premiere of the work *Ensayo*, from César Bolaños, a commentator wrote: "for César Bolaños musical nationalism, regarded from the point of view of indigenous people, is ineffective. He thinks that the coastal musician, born as he was in Lima, a city with enough cars and noises to drive anybody crazy, it is incoherent to believe in a vulgar autochthony, when, as is his case, "he does not even directly know a tinya or a quena". This way of thinking, diametrically opposed to that of other Peruvian composers, makes Bolaños' music be regarded as highly dissonant and modern within our field." [9]

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8 Valcárcel, Edgar, " The generation of composers from 53 in Peru", in Ballet N ° 6 Lima, 1954.

9 Anonymous, *El Comercio* newspaper, Lima, 1956.

Fig . 1. The 60's generation: César Bolaños , Francisco Pulgar Vidal, Leopoldo La Rosa and Edgar Valcárcel.   CLAEM and the Birth of the Peruvian Electroacoustic Music

The conformation of the CLAEM and its openness to the world was also based on the facilities that the U.S. Government offered through the Alliance for Progress, a program established by John F. Kennedy, with the purpose of promoting Latin American art and culture, in an attempt to stop the emergence of guerrillas inspired by the recent Cuban revolution, which definitely influenced many intellectuals and artists in Latin America, including César Bolaños. The penetration of American capital was accompanied, in the cultural field, by grants from the Ford and Rockefeller foundations; the latter made the opening of the CLAEM possible.

Such investments were intended to encourage research on topics of interest to a new socio-economic age and promote the theoretical orientation prevailing in the United States. According to Garcia Canclini: "structuralism-functionalism swiftly becomes the hegemonic tendency; the dualistic model traditionalism/modernism, which opposes rural societies governed by the laws of subsistence and traditional values against modern, urban societies of lively competition and commercial economy, becomes a theoretical support for those who believe that the solution of our problems lies in imitating the United States" [10].

As we can be noted, the periods of distancing from tradition are followed by others of clear reinstatement of that tradition launching everything back into the conventional margins of the genre. It could not have been otherwise since, like Feld notes, it is only through the history of hearing that a listener can recognize whether a song can be considered within a

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10Canclini García, op. cit., p. 104.

repetoire (Feld, 1994: 83). In fact, the distancing reports on the innovative intentions of the author; but the role of the comeback is not least important because, ultimately, they provide the listener with a framework in order to determine the right affiliation. Far from the destructive nature traditionalists attach to it, these distances from the current tradition also contribute to its own conservation, not only renewing but also perpetuating conventional forms giving them renewed strength. This series of musical transformations are, of course, in close connection with a new way of understanding Peruvian identity, how to play and present it (Mendivil, 2000: 74).

During 1964 Bolaños composed his first piece for tape *Intensidad y Altura* based on a poem with the same name by César Vallejos at the CLAEM. This was also the first electroacustic pieces created at the centre, while its laboratory was still at its initial stages of development, and was the first electronic piece by a Peruvian. At the time the CLAEM only had three open reel recorders of different qualities (one stereo Ampex, one stereo Grundig and a mono Philips), a white noise generator, a filter bandpass and some simple modulators. Bolaños used as sound sources three voices, white noise and different metal plates for this piece.

Although the use of folklore was not vital to Bolaños, his work could not fail to be read as a sign of the social transformations that Peru experienced in the fifties and sixties. This is was the piece *Homenaje al Cerro San Cosme* (1957) suggests. Bolaños said: "My father had a business in the town of El Porvenir, that's where I established contact with the world of Cerro San Cosme. I was struck by the recent invasion of the Andean world, they were coming to Lima. There were a few stands along Aviación Avenue. In the central part, there where the gardens should be. Wooden stalls with speakers were selling music that you could hear throughout the Aviación Avenue. It was nice, I was struck by the Creole music played there, it was a very special world; also the houses in El Porvenir were very peculiar. I think president Prado ordered their construction. It really was a very special, very curious, neighborhood of impoverished middle class people, but other than that, there was the invasion of Cerro San Cosme ".[11]

We will let Delalande (1986) help us reinforce the idea. He suggests a search for similarities in musicians' musical behaviour; in every part of the world there are certain characteristics in musical practices. There are three musical behaviours that explain the dimensions present in music: the sensorimotor, symbolic and regulated aspects. When focusing on musical behaviour, as Delalande (1995) has noted, it is essential to relate the research of sound and gesture with the sensorimotor game (motor skill and preference for sound), the expression and meaning in music with symbolic play (sound acquires a sense) and the regulated aspect with organized games (organization, composition, construction, analysis and the ability to recognize that order).

Secondly, Pierre Bourdieu (1995, 2003) has analysed the relationship between aesthetic value and power relations from another point of view. For him, these relations are not confined to appropriations and manipulations of the ruling classes, but are intrinsic to artistic production. Precisely what characterizes the field of artistic production, understood as a "field"[12], what is really at stake, that which defines positions, is the struggle for

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11 Interview by Luis Alvarado, July 2009.
12 With the concept of "field" Bourdieu (1995) refers to a specific social "game", with its own rules and with relative autonomy in relation to global social space. In each field a social system of relations is established between positions that hold certain control of

legitimacy in a specifically "cultural" aspect (as opposed to seeking " commercial " consecration) and the "dialectics of differentiation." It is upon this dialectic of differentiation that the social existence of an artist depends on, which constantly leads to the search of differentiators (often "excisions"), and the need to place value on them. And it is this same dialectic that limits the core of receptors more and more, opposed to what Bourdieu called the "big production" of the culture industry oriented to mass audiences.

In other words, there is a relationship between value and rarity, value and difficulty of access; seen from this point of view those inherent traits that make a work of art canonical in the tradition of the humanities (complexity, difficulty, formal work, etc.) acquire another sense. From a sociological point of view these formal features are needed to produce the oddity that is the basis of the social assessment. The more inaccessible a work is, the more value it has. And it also takes on another meaning that those traits, converted into value criteria, be adopted for the legitimation of popular music.

Fig. 2. César Bolaños, in the Torcuato di Tella, Buenos Aires, Argentina, 1966.

During the following years Bolaños used electroacoustic media, and even later, computers in his musical works. He created works for tape only and mixed pieces, including live electronics and multimedia resources in some of them. One of the most representative works of the composer during his stay in the CLAEM *Interpolaciones*, a four-channel work for electric guitar and magnetic band. One of the channels has the potential to spin in the room through a photoresistive system.

The guitar does not have the conventional speaker of any electric guitar, instead it has a device composed of micro-switches controlled by the guitarist's foot that can place the amplified guitar sound in any of the six speakers of the room. The speakers can also rotate by rotating the foot. The work is structured from a set of values and a geometric ratio. The instrumentalist translates these approximate values and heights that fall within a certain area.

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those resources considered valuable within the field.

Interpolaciones was made for playback systems incorporated in the Audiovisual Room of the Torcuato Di Tella Institute. It was first performed in its original version during the third concert of the Fifth Festival of Contemporary Music of the Latin American Centre for Musical Studies Institute Torcuato Di Tella in 1966. Years later, in the presentation of his work *Ñacahuasu* (1970), a work that includes recited excerpts from the diary of Che Guevara in Bolivia, during a meeting of Latin American Music held in Cuba in September 1972, Bolaños said: "the fundamental problem of Latin American music is not in the assimilation of techniques, but finding a way to express the convulsive political and social reality of this continent. "[13]

Latin America as a region and the assertion of its cultural independence was a constant concern for Bolaños throughout his career as a composer and researcher. Already in 1964, in an interview by Enrique Pinilla he said: "I do believe that there is a Latin American style that is already displayed in folklore like in any other work that the author freely use atonality, polytonalism, dodecaphony, etc. Admittedly, European culture weighs significantly on our own, because we are in a process of assimilation, but nonetheless the Latin American personality exists primarily in the rhythmic vitality that is not present in the already worn-out European avant-garde. "[14]
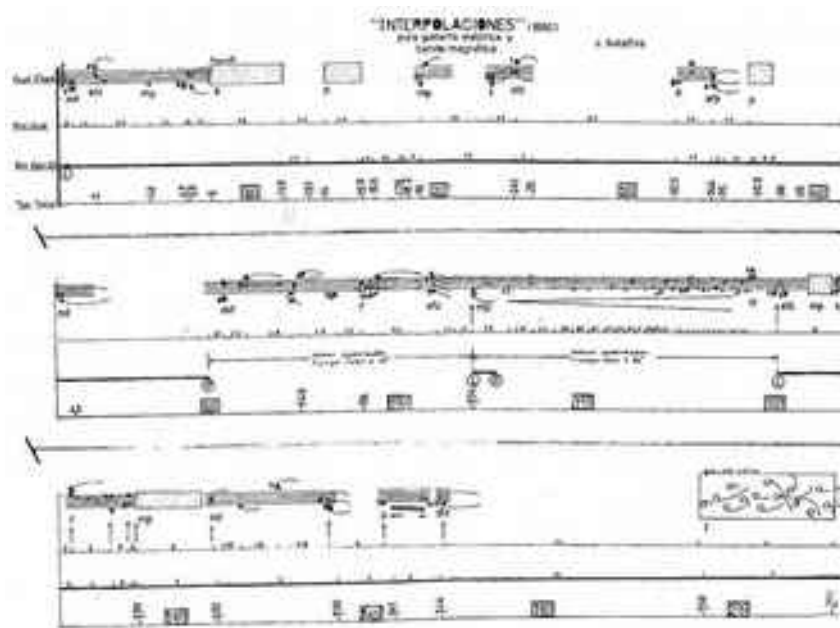
Fig. 3. Interpolations, for electric guitar and magnetic tape, 1966.

13Cited by Luis Hector Correa de Azevedo in " La música en América Latina ", in Aretz, Isabel (ed.), América Latina y su música, Siglo Veintiuno Editores, 1987, p. 67.

14Pinilla, Enrique, "Young musicians: twelve American composers meet to study. Interview with César Bolaños "in Estampa, Expreso magazine, Lima, February 1964.

3 Choral chant to Tupac Amaru

... the role of the gesture in music calls for an integrated vision of perception and action, which involves a shift from the knowledge based on hearing towards incarnate knowledge, an approach that includes the full human body as mediator between mental processes and physical energy. (Leman & Camurri. 2006:1)

In August 1968 the New Music collective had a concert in the Alzedo hall. In the words of the journalists it was a slap in the face for the public. The presentation of the experimental work *"Ssiri Eterieo Bebebero"* as a collective creation of the group for traditional Culina tribe instruments made critic Luis Antonio Meza loose his patience and call it banal and tasteless. The presentation also included works by John Cage, Gustavo Becerra, César Bolaños and Leopoldo La Rosa (the latter radicalizes his random provocations while being assistant director of the National Symphony Orchestra). In October of that year the Revolutionary Government of the Armed Forces was installed under the command of General Juan Velasco Alvarado, with a nationalistic and anti-imperialist political profile. The manifesto proclaimed: "The action of the Revolutionary Government will draw on the need to transform the structure of the State, in a way that allows efficient government action; transforms social, economic and cultural structures; maintaining a definite nationalistic attitude, a clear independent position and firm defense of national sovereignty and dignity " As a result, a series of reforms that were historically pending were carried out, as the Agrarian Reform, which sought to eliminate forms of landlordism which had been the basis for the formation of elites. More than 11 million hectares were expropriated and given to cooperatives and rural communities. Vast lands located in Puno were expropriated to Edgar Valcárcel. This situation affected him financially and emotionally. Ironically, the creator of *Canto Coral Tupac Amaru II* would have to bear the slogan of the agrarian reform which was a quote to Gabriel Condorcanqui: "Farmer, the landlord will no longer feed from your poverty". The cultural field was not to be exempted from the reforms. As a result of the Education Reform in 1970 the Composition workshop at the National Conservatory of Music was created. Enrique Iturriaga and Edgar Valcárcel undertook the task to form a new group of composers: Aurelio Tello, Luis David Aguilar, Isabel Turon, Walter Homes Douglas Tarnawiecki and Pedro Seiji Asato. Many of them performed concerts under the *Colectivo Nueva Música*.

As an ethnographic method that emerges from sociology, the appeal in the study of historical actors in ethnomusicology is obvious, and for this reason, the argument here addresses some specific problems of circumstances and events in the Peruvian musical history of the mid-twentieth century, as historical events inserted in Latin American music. This approach emphasizes the ethnographic and historical research of the realities of every day actions and, according to anthropologist Christopher Pinney[15] and many others, showing that "things happen" so that historical events cannot be reduced to a single speech without mentioning the context of these results.

15Christopher Pinney, 'Things Happen: Or, From Which Moment Does That Thing Come?', in Materiality, ed. Daniel S. Miller (Durham, NC: Duke University Press, 2005), 256–72.

Fig. 4. Edgar Valcárcel in the electronic music laboratory in Columbia (1966).

In October 1970, the National Symphonic Orchestra premiered *Canto Coral a Tupac Amaru II* by Edgar Valcárcel, a piece for choir, percussion, electronic sounds, projections and lights, upon the sound sample of Alejandro Romulado reciting the poem which he wrote in 1959. The piece had been composed in 1968, while Valcárcel was studying electronic music at the University of Columbia-Princeton, thanks to a Guggenheim Fellowship. He was a student of Vladimir Ussachevsky and the Argentinian Alcides Lanza. The piece stood out, besides the light effects by Mario Acha, due to the use of visual poems (based on the poem "*Canto coral a Tupac Amaru, que es la libertad*") slide-projected and composed by Romualdo himself. Among the 117 projections on that night, there were images of Tupac Amaru's face in colour, which gave the presentation a pop flair that was in perfect tune with the posters designed by Jesús Ruiz Durand for the revolutionary government of Juan Velasco Alvarado. Many of Peru´s top political and cultural personalities attended the premiere. Among them, Alfredo Arrisueño, minister of education at the time, described the Choral Chant as magnificent. A note, published in the *Oiga* magazine, was titled: *Canto Coral: Arte de Vanguardia, Arte Revolucionario.* It seemed as though the piece embodied the nationalist spirit of Velasco's government and became the exemplary image of an age. Nevertheless, Valcárcel had already written the first version of the Canto Coral in 1965, three years before the military junta led by Juan Velasco Alvarado dismissed president Fernando Belaunde Terry from office and the image of commander José Gabriel Condorcanqui had become symbolic of this deed. In an interview from 1975, on the occasion of the premiere of his *Canto Coral to Pedro Vilca*, he was asked: "Is this revolutionary music? Has it been composed as a contribution to the Peruvian Revolution?" to which the composer responded: "One might ask the same question about the song for *Tupac Amaru*. This piece was written ten years ago, when there were no signs of the revolutionary changes. It was merely a personal approach, of

myself to the character, an intuition of what might lay ahead". Later he expressed: "I am against all the revolutionary posing that I encounter daily in folks who sit at a desk and are "revolutionary" but who are anything on the inside. This is why, compared to them, I am not revolutionary".[16]

Fig. 5. Articulo del concierto dado por Edgar Valcárcel presentando la obra Canto Coral a Tupac Amaru, revista Oiga, Lima, noviembre 1970.

Fig. 6. Partitura de Canto Coral a Tupac Amaru II, de Edgar Valcárcel, Di Tella, 1968.

Fig. 5. Article about Edgar Valcárcel's concert where Choral chant to Tupac Amaru was presented, Oiga Magazine, Lima, November 1070.

Fig. 6. Musical score for Choral chant to Tupac Amaru by Edgar Valcárcel, Di Tella, 1968.

Edgar Valcárcel would later repeatedly declare that his uncle, indigenist composer Theodoro Valcárcel Caballero, had been the first to inspire his devotion for music and, simultaneously, the last master to enrich his insatiable quest for musical knowledge. Unlike many composers from his generation, Edgar Valcárcel defended Theodoro's image against the opinion publicized by Rodolfo Holzmann and to a lesser extent by Andrés Sas, about a certain amateurism that defined indigenist composers: "(…) I profoundly respect masters Rodolfo Holzmann and Andrés Sas, distinguished masters, the forgers of current generations, but I cannot avoid to recognize in them the image of the last *conquistadors* before whom the musician settlers of these parts, poor indians, poor *cholos*, bowed in reverence. Their words were law for them and the *establishment* in Lima took them in as immutable principles".[17]

16LFS: "I do not dare to call myself a revolutionary," says the composer of the Cantata of Pedro Vilca, in the press, Tuesday 14th October, 1975.
17Valcárcel, Edgar, "Memories of Andres Sas" in Journal of the Conservatory, No. 6, October 2000

In the context of Peru and Latin America, Arguedas initiated a new musicological perspective. In order to understand Andean musical culture, one must comprehend its significant soundscape, which transcends Western music; a world that is formed by the multiple and infinite messages that are emitted by all the beings that inhabit the universe through sound/movement: rocks, rivers, mountains, airs, heavenly bodies, insects, birds, humans. In other words, a new musicology, resulting from a holistic vision, which enables us to approach sociocultural norms of Andean aesthetics in undreamed dimensions (Vásquez 2002: 57).

From another perspective, Vargas Llosa identified a mere escapism in this magical-religious idea of music, a way of fleeing from objective reality to take refuge in pre-rational modes of thought (Vargas Llosa 1996: 183-184). But what the novelist from Arequipa seems to be missing is that, precisely, through antagonism, this globalizing and mythical view of music, confronts and undermines the dichotomies established by Western knowledge. As stated by Rowe, the rational culture of modern science emphasizes visual rhythm to the disadvantage of sensory rhythm (Rowe 1987: 105). Opposing such a strategy from a lesser literature, in other words from a literature of a minority (Podestá 1989: 121), Arguedas implicitly questions Western visualism, supporting a reorientation towards a more global understanding of sound. In this sense Arguedas proposes an alternative form of analysing music.

The ethnographic or historical subject perspective is obviously important because it opens up ways that allow us to suspend the belief in our own ontologies and trace new ones, suggesting or configuring other, surprising ones, but no agent is conscious of the forces that are at work in each situation, and the indifferent insistence that philosopher Bruno Latour creates in individual judgements, seems to ignore the work of repetitive patterns, greatly dispersed and habituated of all association, especially of the enduring configurations of race and gender which come to mind.[18]

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18 Points taken at the thought of Latour in 'On Tardean Relations: Temporality and Ethnography', in The Social After Gabriel Tarde: Debates and Assessments, ed. Matei Candea (London: Routledge, 2009), 230–47.

Fig. 7. Partitura de Flor de Sancayo 2 para piano y electrónica, de Edgar Valcárcel, 1976.
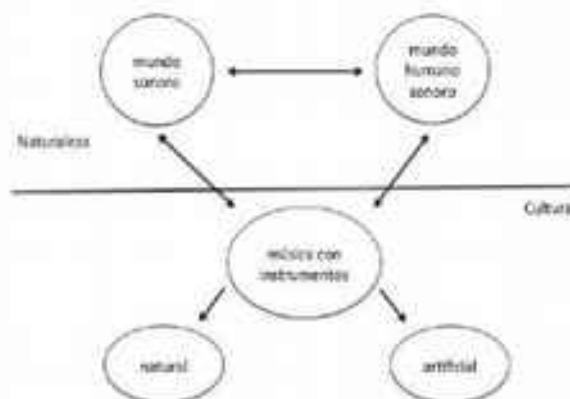
Fig. 8. Esquemas de las músicas según los libros de Arguedas. Mendívil, Julio, 2015.

Fig. 7. Musical score for Flor Sancayo 2 for piano and electronics by Edgar Valcárcel, 1976.

Fig. 8. Diagram of different music based on the books of Arguedas, Mendivil, July, 2015.

4 The Cholo Feeling

The foreigner who listens to it [the song] considers it a little wild; the artist, no matter how strange he is, perceives the deep power of the singing; and he who has always lived in these towns, even if he is civilized, he feels the world as illuminated, animated and shaken by a human emotion. (Arguedas 1976 b:88)

The construction and interpretation of a musical performance, in this case Peruvian, directs us to a broader vision in regards to "sound and knowledge": within indigenous ontologies the interaction between human beings and non-human beings occupies a central position. In this case, not only is the performance that takes place among human beings (interspecific interactions) an object of study, but also the performances that involves animal or spiritual agents, as well as objects and parts of the landscape (see fig. 8)

The point of departure in the debates of "Avant Garde" Peru of the 60s and the birth of Peruvian electroacoustic music, made it clear that the support to the culture of that time, depended on a nationalist idea that, to this day, is reflected in its later roles in the context of national South American Art.

Many of Latin American and Peruvian traditional dance forms have long, deep rooted histories that intertwine with the social and political situations of their specific age. Peruvian composer Rajmil Fischman incorporates dances as selections of influences, to face the global and particular notions of these cultural antecedents, for example in his acusmatic composition *Alma Latina* (1997). As Fischman explains, he attempts "to capture from other experiences, the extreme responses brought on by the strong images of joy and pain in the midst of the contrasting wealth and poverty of a Peruvian city, that serve as representatives of a historical-political situation". [19]

After analysing popular culture's strategies to integrate with modernity, García Canclini concluded that there is no dichotomy between modern and traditional cultures, but that the latter are constantly entering and leaving modernity, as well as the former requires tradition in order to be validated.[20]

Di Tella's education was not exempt from this broad framework. Although the scenario presented itself as one of open universality, which assumed the image of a credential that enabled access to that illusory development, one should not forget that the fellows of the Di Tella came from Latin American societies that had recently begun to reclaim their national identities through music, as stated by Aurelio Tello: "The idea of creating a "national" art was not exclusive of one Latin American country in particular. The "nationalism", that position that attempted to establish identity principles for our peoples, dressed in tonalities, in chromatism, in impressionism (these were the languages akin to the aesthetic of romanticism), in politonality, in neomodalism and even in atonality (in other words, in modernity, in the broad sense of the word) was not a trend that developed in Argentina, Brasil, Cuba and Mexico, but one which responded to the undeferrable need to consolidate the artistic mark of our people as the result of a process of search for identity that dates back to the 19th century".[21]

History has proven that Peruvian electroacoustic music is strongly influenced by its cultural environment. Influences originating from environmental or musical sources that, in time, have become representative of culture. The most relevant of them is the figure of José Carlos Mariátegui during the 1920s and José María Arguedas in the 40s. His introduction to the Andean world-view, his knowledge of the language and the Andean reformulation of national identity, and his influence on Peruvian vanguard artists during the 60s, greatly influenced the formation of a particular identity (Rebaza Soraluz Luis, 2000).

The quality of the electroacoustic institution is reflected on the quantity and character of works in the 60s and 70s. The ability to carry out work according to an indigenous character was of utmost importance to the composers of that time. This is reflected in an interview to Peruvian composer Edgar Valcárcel. "During my visit to the University of McGill, where Alcides Lanza taught, I composed *Flor de Sancayo* for piano and electronic sounds. The title means "small flower that grows on the mountains". I was born on the mountains, close to the shores of the Titicaca Lake, in an area where small flowers can be

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19 Rajmil Fischman, footnote from the CD Alma Latina [Lorelt LNT 113], 1997.

20 "The conflict between tradition and modernity is not a crushing exercised by the modernizers on traditionalists, or as direct and constant resistance from popular sectors committed to asserting their traditions. The interaction is more sinuous and subtle: popular movements are also interested in modernizing and so are hegemonic sectors in keeping traditions, or at least part of it, as a historical reference and a contemporary symbolic resource " (García Canclini, 1995: 257).

21 Tello, Aurelio, " Aires nacionales en la música de América Latina como respuesta a la búsqueda de identidad ", in Hueso Húmero N° 44, Lima, Mosca Azul.

found. Alcides played the piano for the performance" (Robert Gluck, In Conversation with Peruvian composer Edgar Valcárcel, 2006).

The ideas exposed in this article allow us to read between the lines and understand how unstable it is to research a new sub-genre of Avant-Garde "world music", characterised by a base of ethnic influences and their incorporation within the genre of electroacoustic music. By considering and reviewing a series of works done by composers of this generation, how they were conquered and seduced by the sound and visual landscape of a geography unknown at the time, while being capable of transmitting throughout their body of work the starting point for pieces of a hybrid character which was unusual in a technology dependant type of music. Until then, they had essentially thrown themselves over to work in a traditional style and composition method of Western music, an act that demanded an early attempt to categorize them as composers in a discreet discipline. In short, what I intend to analyse is not the veracity of the discourses of this or that interpret or composer, but to inspect how and why these types of discourses are laid out. The Orchestra, for example, speaks of continuity and recovery, of a return to the source, to the roots, and it invents practices that are intended to revive ancestral practices. It is obvious to me that the indigenous person did not need these strategies, because his continuity cannot be questioned (at least not by me), they are very different discourses, and thus they depend on different practices.

In conclusion, in the medium of electroacoustic music there has been more liberty in the choice of sound and thus the composer faces "an acoustic palette as broad as the environment itself"[22]. Due to the nature of the electroacoustic genre, especially in South America and in this particular case Peru, to choose or borrow sounds from the ethnic environment is now common among its composers, but it is also an implicative option, determined by the decisions of abstraction and the imposition of narratives associated to the piece. As Michael Bull states in *Sounding out the city*: "the use of sound technologies can be understood as part of the Western project of appropriation, control of space, place and the 'other'" (2004: 174).[23]

The case laid out here consists of an attempt to delve into history in order to evaluate the extent to which it was (and is) possible to sidestep aesthetic mandates and make space for an experience resulting from an aesthetic de- and re-sensitization in the wake of sound stimuli (soundscapes) which, according to these mandates and moments, belong to the order of things that are tangible and intangible.

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22 Emmerson 1986, 18.

23 "The use of sound technologies can be understood as part of the Western project of the appropriation and control of space, place, and the 'other'" (Bull "Sounding Out the City". 2004: 174).

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32. Music – Sonic Arts – Auditive Culture. About the inner complexity of sound and its experience

Sabine Sanio

Abstract: This lecture deals about the concept of Sonic Arts (Klangkunst) as a musical concept that is discussed since the 1980s and still very present in Berlin and Germany, but also in New York and the United States and also as a phenomenon that allows to find connections between questions discussed in musicology and such discussed in cultural studies. Emerged out of the uncontent with some problems of performance art the Sonic Arts are part of the search in the artistic Avantgarde movement of the 20th century. As Klangkunst was invented not before the use of walkman and audio cassettes became very common and inexpensive every discussion about it has to reflect the role of audio media. That includes the changings in the concept of music and the way we hear music today as in this context the use of new media is of great importance, too. In Klangkunst as well as in New Media sound reproduction constitutes a kind of precondition for the modern techniques and practices of listening.   Sound art explores the interaction between the visual and the musical, hearing and seeing, or between sound, space, and movement. Sound installations are for the most part temporally open and generally speaking unguided processes, in which the complex overlapping of a wide variety of perceptions, which we generally react to in everyday life with automated perception and motion sequences, are playfully examined for their inherent aesthetic potential. The fact that sound installations operate consistently with the plurality of the different senses and therefore insist on the sensual concreteness of perception makes them virtually ideal examples of the self-reflexivity of the aesthetic perception process that has been described time and again since   K a n t .

This lecture deals about the concept of Sonic Arts (Klangkunst) as a musical concept that is discussed since the 1980s and still very present in Berlin and Germany, but also in New York and the United States and also as a phenomenon that allows to find connections between questions discussed in musicology and such discussed in cultural studies. Emerged out of the uncontent with some problems of performance art the Sonic Arts are part of the search in the artistic Avantgarde movement of the 20th century.
As Klangkunst was invented not before the use of walkman and audio cassettes became very common and inexpensive every discussion about it has to reflect the role of audio media. That includes the changings in the concept of music and the way we hear music today as in this context the use of new media is of great importance, too. In Klangkunst as well as in New Media sound reproduction constitutes a kind of precondition for the modern techniques and practices of listening.

In sound art, the relinquishment of performers has brought with it a breakdown of the rigid separation between the concert stage and the audience, leading to an exploration of venues and means of performance that go beyond the concert hall. Whereas in a musical performance there is generally a certain distance between the work and the recipient, sound art invites us to immerse ourselves in sound spaces, to stroll through sonic objects, or to tumble and sway from one acoustic zone to the next, the immediate spatial propagation of sound becoming enmeshed with the reception process. These new musical concepts from the borderlands between music and visual art arose during the 1970s and were originally simply called sound installations and sound sculptures. Now, after much theoretical debate about the genre, we tend to use the rather pragmatic term sound art.
It is possible that the use of the term Klangkunst in the German-speaking countries differs from the considerably broader English term "sound art" in that the performance situation

represents a vital aspect of the former. Sound art is usually based on a specially designed setting. Movement through space, which was limited in painting to the eye wandering across the picture surface, is projected into space in sound art in such a way that recipients are coerced into setting themselves in motion and wandering around the space. Unlike, for example, when reading a book, which is predominately a fixed, linear process, recipients in an installation are largely autonomous in their behavior, even if specific pathways are predictable, such as when an object from which sound emanates draws attention to itself within a space. In sound art, the audience's capability of collective, silent, and concentrated listening, which had been put to the test by opera and concerts, has been transferred to new and unusual but primarily unprotected places in the midst of modern life, or concepts have been drafted for alternative venues of reception.

Sound art and the listener's experience

Modern audio technology has been crucial to the development of sound art. Another central criterion of sound art is its independence from performers. Remove the musician, and the eye is freed of its usual task during a concert, which creates space for other visual elements. Another type of spatial arrangement involves loudspeaker ensembles that place the recipient in a sound space – consider François Bayle's Acousmonium – or sound sculptures that one can walk around. The organization of the time structure also follows a range of different strategies in sound art, from strict organization to complete openness and uncertainty, from infinite loops with a clear time frame to randomly generated sound sequences or superimpositions that combine multiple sound sources or different materials, from extreme reduction to fully static sound fields, and also including constructions of great complexity.

Since sound art is now also presented in art galleries and museums, where a visitor has nearly unlimited time to examine a sound sculpture or installation, the new performance practice also strengthens the connection with visual art. In light of this development, which is nowhere near concluded, we cannot speak of a clearly defined setting for sound art or for other types of music outside of the concert hall.

The multitude of concepts together with the increasing significance of highly complex technology has resulted in the oft-cited need for commentary in modern art now being transferred to music as well. Explanations that describe what one is seeing and/or hearing with all its technical, physical, and acoustic underpinnings as well as its aesthetic consequences demonstrate that in many cases it is the sound installations or sculptures themselves that teach us how to perceive what they let us hear and see.

Art and the arts

Sound art is a modern take on the old romantic idea of an art that contains all forms of art within itself, and is a perfect example of an integrated aesthetic occurrence that addresses all the senses, making the old subdivision of the arts according to the intrinsic logic of the materials used obsolete. The new genres that emerged in the 20th century no longer abide by the traditional differentiation of spatial and temporal arts. The tendency towards

expansion and integration of different genres is reflected in sound art by the general absence of fundamental rules or stipulations, making it an open space of possibilities between music and visual art. The dimensions of space and time are treated here as freely as are the materials of sound, color, and light, to which any conceivable form of matter or object could be added. In spite of this, many sound installations limit themselves to working with sound – and conversely, when there is no sound, one would not call it sound art, but rather a sculpture or object art. However, visual design elements are often eschewed in favor of using the sound to call attention to certain other aspects of a situation, thus forming a multimedia or intermedia constellation here as well.

In the arts, we are prompted again and again to experiment with new, not yet automated forms of perception, often with an emphasis on the ephemeral, immaterial character of music – while we continue to rely on the attitude of reception created by the automation processes of the past. In this respect, sound art's characteristic heterogeneity of materials and media appears to be a direct consequence of experiences with musical performance in the concert hall.

Sound art explores possibilities of contrapuntalism and the interaction between the visual and the musical to create new patterns of interaction between hearing and seeing, or between sound, space, and movement. Unlike in opera, film, or song, time has no dominant function in sound art. Sound installations are for the most part temporally open and generally speaking unguided processes, in which the complex overlapping of a wide variety of perceptions, which we generally react to in everyday life with automated perception and motion sequences, are playfully examined for their inherent aesthetic potential. The fact that sound installations operate consistently with the plurality of the different senses and therefore insist on the sensual concreteness of perception makes them virtually ideal examples of the self-reflexivity of the aesthetic perception process that has been described time and again since Kant.

Sound art and the media

Engagement with various media became a central focus of the arts in the 20th century. New media are constantly being drawn on to expand art's repertoire of materials, aesthetic forms, and strategies, as well to contemplate its own circumstances. The avant-garde movements in particular were quick to take an interest in photography and radio, using these technologies – which with their rapid establishment and spread were regarded as alternatives, and therefore as competition, to painting and music – to reflect and expand on their own conditions and possibilities. This development had a bearing not only on our understanding of technology but also on the self-image of the arts, and its full consequences still remain unclear.

The invention of the radio marked the creation of the first real alternative to the traditional concert. For the first time in history, there was a notion that these new audio technologies not only represented a new musical medium but could also lead to the establishment of completely new musical performance practices. Composers and fine artists still develop musical concepts for the radio to this day. In the 1960s and 70s, the American conceptual

artist Max Neuhaus explored the aesthetic and communicative possibilities of the medium in his works Public Supply I (1966) and Radio Net (1977), which used call-ins to live broadcasts, while his installation Drive-in-Music (1967–68) consisted of radio transmitters installed by the side of the road whose extremely short-range signals could be picked up by the radios in passing cars.

Current applications of radio in art are often connected to political initiatives. Examples are Tetsuo Kogawa's micro-radio movement, conceived by the sound artist as a "counter-strategy to mass media uniformity," as well as the free radio station Freies Sender Kombinat (FSK) Hamburg launched by the artist group Ligna, who have been active since 1996, using their interventions in the form of Radio Ballets to explore the boundaries of groups' freedom of movement in public spaces and the gray area between what is permitted and prohibited.

On the musical discovery of public space

Beginning with the disposition of sound sources, space in sound art, unlike in music, is more than just a framework or part of the setting for a performance – it represents an integral part of the aesthetic concept. Conversely, there has been a significant relativization of the temporal dimension. This exploration of space has long since extended into public, urban space, and is carried out in a variety of different places and non-places of social and societal life, in the space-related conditions of musical performance practice and the relationships between artist and audience, even if only those between musicians and listeners are observable. The musical discovery of space leads to a situational escalation that covers all materials, techniques, and strategies, and which provides the arts with a whole new range of opportunities for interaction and cooperation.

This advance into public space is perhaps the most compelling way of bringing music into everyday life and daily practices. In sound art, exploring public space began already in the 60s and is continually current today, perhaps because unusual aspects of musical space concepts come into play in public space. A prerequisite is a suitable audio system, without which musical strategies in public space would be very difficult to realize: currently many concepts for audio walks benefit greatly from the increasing mobility of modern technology. Public space itself is characterized by its everydayness, which enables contact with an audience consisting primarily of passersby, rather than experts.

It was Max Neuhaus who discovered public space, musically speaking, with a series of unconventional installations in the late 60s. In addition to works such as "Public Supply" (1966) or "Drive-In Music" (1967) he explored the musical possibilities of radio in sound installations for public places like "Times Square" (1972), which can be heard at that titular New York location, and "Walkthrough" (1973-77) for the Jay Street New York subway station.For the sound installation „Times Square", which was created in 1977 and which has been accessible again for several years now, Neuhaus deliberately avoided declaring it an artistic work, e.g. through use written signs at the site: instead leaving the sounds and noises of the installation, which penetrate from an underground grate and are

indistinguishable from some other technically generated process, for listeners to discover as an aesthetic phenomena on their own.

"Times Square" is among the first sound art works in public space which grant new relevance to the old avant-garde idea of reconciling art and everyday life by varying it in surprising ways. Sound artists such as Rolf Julius, Christina Kubisch, or Bruce Odland and Sam Auinger, have made sound art in public space an artistic movement of its own, sensitizing visitors as well as passersby to the sound situation at a given place, and similarly to Neuhaus, drawing attention to what already exists in situ. Public space offers its own particular form of audience, which demands carefully investigating the situation on the ground; at the same time, producing a sound installation outdoors is always bound with significant technical effort. Nevertheless, public space has as yet lost none of its original appeal.

Like Neuhaus, Georg Klein also focuses his artistic work on intervention in public space. Klein has developed a range of concepts to engage with and investigate concrete situations at a site and to short-circuit current problems of public life with urban public space. Framed as observations of particular sites, Klein uses his installations to more or less explicitly question the social role of art. Using voice collages, text compositions, and timbres, Klein makes an imaginary inner reality accessible, in which thoughts and memories, familiar or threatening voices, come to life and overlay the present situation with a place's history. Klein often chooses ignored and neglected places and situations in public space in which to make a reason to pause, create ways of reading a site, and make associative or metaphorical references to the location, offering visitors the chance to construct their own interpretation of a place.

Many of Klein's works act as medial mirrors confronting passersby with the site itself. In this manner, „mirrorsongs" (2010) produced fictional echoes of the past in a notorious former Turkish prison. For this, Klein invited Turkish youths to sing a song for an imaginary imprisoned friend. In contrast, the auditory walk „toposonie" (Berlin 2013), along the Spree river, operates with elements of documentary fiction. Using a mobile phone with GPS, visitors can retrieve sounds, atmospheres, and spoken reports produced for different places on the Spree; scenes that recount activities in significant buildings in the government quarter and zones of opaque relations between economic and political powers.

Klein and Neuhaus are exemplary of a number of different sound artists and composers engaging with listening situations and sonic environment in public space. These include Murray Schafer with the idea of soundscape, Christina Kubisch with her early forms of audio and „Electrical Walks", or Bruce Odland & Sam Auinger with their harmonious tuning of public spaces using special resonance tubes. With their interventions in public space, they contribute in different ways to helping sensitize our perception of everyday situations and environments, and simultaneously initiate a change in the character and atmosphere of those places affected by their interventions.

Reflection and mindfulness as aesthetic-political practices

Such sound installations, which turn "non-places" (Marc Augé), i.e. places purely of transfer and passage, into opportunities to linger and be mindful, might prove most strongly how important the idea of space currently is in the arts. By lending the situation of a musical performance the quality of an aesthetic situation of itself, a concept of space is up for debate which can be thought of as an extension of the traditional concept of an artwork, particularly as a variation on the old idea of autonomy. The challenge now is to develop and practice attitudes and behaviors that evade usual functional contexts. Such art forms, which bracket social constraints and functional contexts, help to establish free social spaces.

The current positions in music and sound art presented above are exemplary of a dispute that has been waging in the arts over how the arts see themselves, as well as their relationship with their public and recipients. Cage's interpretation of the arts – as a place of freedom, as an "experimental station" for trying out life, i.e. social behaviors, whose uselessness is a prerequisite for their social benefit, and to a certain extent for their "secondary benefit" –, has a famous predecessor: In the aesthetic utopia that Friedrich Schiller the great german poet, philosopher and historian formulated in his Letters on Aesthetic Education, in light of the social upheavals of the French Revolution at the end of the 18th century, he emphasized precisely this potential of the aesthetic in relation to its uselessness. Schiller's utopia is still I quote Klaus Berghahn: "so little satisfied, as it is obsolete. It is still a future of the past worth returning to." (Klaus L. Berghahn)

Today, at the beginning of the 21st century, the situation is different than the mid-20th century, when people readily subordinated art under goals of political change. Since then, it has become clear that the aesthetic autonomy and freedom of the arts offer potentials for social development and change. Then again, the current scope of advances within the arts towards the attitudes and strategies of scientific research is not limited to aesthetic material. The philosopher Odo Marquard, for instance, understands this approach as a response to the increasing fictionalization of modern reality that is one of the effects of secularization: ideas previously associated with the afterlife, paradise, or the final judgment, or considered to be utopian alternatives to existing reality pointing to the liberated society of the future, have become elements of everyday life. It is part of our nature to operate with drafts for a different, better world in mind, with fictional future scenarios by which we evaluate social and economic models of development. Art is thus almost inevitably losing its former importance as a sphere of fiction and fantasy unburdened by everyday pressures. The logical outcome is that more and more artists are devoting their work to the exploration of reality.

In the course of this research, sound has proven to be a complex phenomenon that, aside from spatial and temporal aspects, also exhibits visual, haptic, indeed corporeal qualities. Unlike the sciences, the arts are unconstrained in their choice of arguments and methods, and unlike popular culture, they are not geared towards economic yield but their mode of operation is instead based around the old idea of the purposelessness of aesthetics, as well as the specific conditions of individual situations and experiences. Liberation from functional and instrumental constraints opens up a space for the playful exploration of

objects and processes of all kinds. The study of music is no longer central to this exploration in sound art, but the sound of old musical material and the way we perceive it is. The focus here is on the sensual but also very elementary processes of perception.

The place and mode of this sound research is arguably the performance situation, some of the characteristic aspects of which are outlined here for this reason. So many musical concepts operate in spaces and places that invite individual listeners and visitors to be mindful of everyday, past events, or current processes in a way that suspends daily routine – manifesting instead the full presence of what is perceived by the senses. It is an attempt to occupy and transform daily life. While in the age of computers, cell phones and GPS systems, self-evidence in terms of space, local positioning and the nature of being tied to one place is lost on us, these aesthetic concepts are working to raise awareness of everyday, familiar spaces and places.

33. Composition for Temple Speakers: On Devotion and Noise in India

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Abstract. This paper expands on the cultural and conceptual frameworks surrounding the sound work, Compositions For Temple Speakers. *Compositions...* is (will be) a series of devotional songs and associative writings that aim to negotiate sacred/secular and sacred/profane divides. In the project, I collaborate with artists, musicians and writers to expand on the notion of devotion in the Indian urban imaginary. We do this through local sonic interventions in temple sound systems and a discursive practice that begins from listening to those interventions. By providing sensory and anecdotal traces of the first composition for a temple in Bangalore, this paper will elaborate on the idea that issues of noise (pollution) are issues of intimacy, and that moving from noise provides a potential ambience for thinking about non-violent religious pluralism in India today. Sound art practices have often emphasized on focussed listening and a willingness to heighten one's awareness of one's surroundings. *Compositions...* argues that sometimes it is not heightened awareness but the imperceptible traces in sounds that can trigger new modes of listening.

Keywords: sound, sonic, noise, art, music, temple, devotion, religion, religious, Hinduism, India, imperceptibility, site, amplification, loudspeakers, loud, pollution, conflict, communal, violence, agonism, pluralism, secularism, fundamentalism, desiring-listening

1   Introduction

This paper follows the process of conceptualizing and developing the site-based sound work, *Composition for Temple Speakers. Compositions...* is (will be) a series of devotional songs and associative writings that aim to negotiate sacred/secular and sacred/profane divides. In the project, I collaborate with artists, musicians and writers to expand on the notion of devotion in the Indian urban imaginary. We do this through local sonic interventions in temple sound systems and a discursive practice that begins from listening to those interventions. The project is on-going as of November 2016; this paper traces the concerns and concepts explored in the first composition for a temple in Bangalore. This composition was made in 2014 in collaboration with Prerna Bishnoi and Ishan Gupta of the Bangalore-based electronic music duo, Banana Apparatus.

2   The temple in Richmond Town / Loudness is presence

4am is an auspicious time for Shirdi Sai Baba. At 4am, the caretaker wakes up in his room within the compound of the Kere Munishwara Sai Baba Temple in Richmond Town, Bangalore. Across the street from him, in our shared studio, Prerna Bishnoi and I are still sleeping our way out of a long night. We wonder if he sometimes brushes his teeth as he switches on the music. On rushed mornings we all run around the house, toothbrush in mouth – surely he does too? Does he think of the temple as home? We are awoken when the speakers are cranked up and the cymbals start chiming to the beat. The sitar and the

voice eventually mix in. At this hour, barely anything can compete with the sound of this music. The temple songs start so early in the day! Are we supposed to count it as a blessing that someone is taking care of waking us up? It is very loud. Loudness is presence here.

While working in our studio, on walks in the adjoining park and our daily crossings of Rhenius Street for autos, *idlis*[1] or watermelons, we listened to our neighbourhood. Every morning and evening, we would be able to hear songs from the temple. We noticed two broad kinds of listening at play in relation to the temple. For some of our neighbours, the loud music was an intrusion of privacy. It was noise. Richmond Town is a thoroughly multi-religious neighbourhood and has some very affluent pockets of new real estate mixed in with old-time residents of the area. The fact that we call it Ismail Pasha Nagar, Shanti Nagar and Richmond Town interchangeably attests to the different groups who call(ed) it home. Amidst this diversity, the notion of territory is at play very strongly for certain people as they listen. As Barthes elaborates, "listening is that preliminary attention that permits intercepting whatever might disturb the territorial system" (Barthes, 1985: 247), where territory is defined as the "space of security… to be defended" (Barthes, 1985: 247). This mode of listening tends to conceptualize the temple songs as (noise) pollution.

On the other hand, we noticed that the songs did not even register as a disturbance for temple-goers, who likely identify with the songs themselves and/or are accordance with the cultural love of *perumai* or greatness. As Ernst Karel notes in his field work in South India, there is a strong affinity between density and *perumai* (greatness) in the way things are celebrated in this part of the world (Karel, 2003: 33). The louder, the denser, the more grand. Loudness is presence, it is something more than presence. This becomes most prominent in moments of festivity and celebration, and temple loudspeaker culture can be seen as deriving from this impulse. This kind of listening is also concerned with attention to territory, though it is unlike the active, anticipatory kind that the noise pollution activists practice. Interestingly, the temple's loudspeakers themselves are aimed outwards onto the street instead of inwards for its own visitors. Their position highlights that they are the threshold of several sonic and social potentials.

We became interested in composing something for these speakers and for the plurality of listening experiences that met them. The idea that we could propose to play with the sounds of our neighbourhood appealed to us. In my practice, I am interested in the use of field recording and phonography not as factual evidence but as possible fictions. The possibility to intervene at the source of sounds in order to make a choreographed field recording excited us. With all this in mind, on a sunny afternoon, we approached the board of temple priests to ask if we could play some of our music on the speakers. In the cool shade of the temple, the board agreed with a nod and a condition: "any song is fine with us as long as it is devotional. We don't discriminate between gods; we play all devotional songs."

3   Devotion

It is possible to think about devotion as an inclusive category. Devotion, at least imagined through many Hindu philosophies, is a notion inspired by love.[2] It is about attractions: to gods, ideas, places or people. By extension, devotional music has the potential to be a very inclusive genre. Over time, devotional music in India has come to include a range of

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1steamed rice cakes usually eaten for breakfast

productions styles — from studio recordings of professional classical musicians, to Bollywood film songs, to a cappella home recordings (Manuel, 1993: 106–110). The devotional impulse weaves in and out of non-religious music too, acknowledging the immanent presence of the sacred all across the lived world. Devotional movements like Bhakti and Sufi have famously vocalized for the removal of religious barriers that get in the way of love for the divine.[3] Saints born into Muslim families sing for Hindu gods, and vice versa.[4] We've heard all this and more as devotional music. We recognize that there is a potential openness to this word. Anyone or anything could speak of devotion.

But for all this conceptual openness, devotion has also become the basis of a lot of exclusionary politics in India.[5] Coeval with the surge in Hindu nationalism since the post-partition days, public displays of devotion have become entangled with displays of religious and political superiority and are often accompanied by the threat of communal violence. Increasingly, politicians fund and support religious events turning the celebration of devotion into a pretext for the show of power. At the institutional level, too, devotional music has been exclusionary. As Carnatic classical singer TM Krishna has said, "There's no apartheid-like wall, but subliminal social barriers exist" (Ramanan, 2014). It is possible to say that most musicians who sing and record devotional songs these days are classically trained and end up coming from the higher caste, the brahmin caste.

So, returning to the requirement of the temple board, "Any song is fine as long as it is devotional": How to play with and expand this category of the devotional? This became our central question for composing the piece. At a time when the Hindu right is bolstering the devotional to suit its political agendas, and the liberal left is making demands to stop amplified religious music of any kind, we were thinking about how to gesture towards devotion's inclusive potentialities rather than its exclusive ones. *Compositions...* was thus conceived as an agonistic gesture (Mouffe, 2007) in a field that is saturated with antagonisms.

4   Structure of the composition

The composition for the Kere Munishwara Sai Baba temple is 15 minutes long and consists of three movements, each of which plays with the notion of the devotional differently. The rest of this paper follows the tripartite structure of the composition, expanding on some ideas that surround the movements.

You can listen to the composition online here: www.soundcloud.com/xindhu/composition-for-temple

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2Bhakti, which translates from Sanskrit to mean 'devotion', is known as the path of love and sharing. Bhakti may refer to the inner devotional impulse or the social movement.

[3] For example, Bulleh Shah's poetry often undermines the mosque as a place to find enlightenment or compassion.

[4] For example, Kabir and Sant Tukaram.

[5] In recent times, the term *Bhakts* refers to Hindu-nationalist devotees; their devotion is seen as directed towards their ideal form of religion and state.

4.1   Negotiating the Sacred/Secular

Secularism, as defined in the Indian Constitution, aligns with ideals of religious pluralism in that it claims equal rights for all religions. However, of late, the opposition to Hindu fundamentalism has become a form of secularism that calls for the removal, rather than equal participation, of religious sentiment from politics and public life. I see more and more of my generation fight for this kind of secularism as a default reaction to the deep anxieties about communal violence and fundamentalist rule. The reasoning, which most of us familiar with, is that religion must carefully be contained in the private realm because it is too dangerous/contagious to circulate in the public sphere. The problem with this kind of exclusionary secularism is that it is mapped to the sovereignty of private property. It fits conveniently with a liberal politics that renders ever more spaces privatized or homogenized in the hope of a zero conflict society. Is this kind of demand for secularism even viable in a deeply multi-religious society? What alternatives exist from the "religious means intolerant/secularism is tolerant" mode of thinking?

The problem, partly, is the way in which we conceptualize religion. Religion, as Ashish Nandy notes, has been expected to remain frozen in a status quo, while *modernity* is allowed to change over time. We often compare the ideals of modernity with the worst in religion and vice versa (Nandy, 1989: 38). These kinds of sedimented logics are at the root of a false divide between the sacred and the secular, which demands that religion be kept out of politics and public life. While the liberal secular is fashionably aligned with notions o102f progress and the forward moving arrow of time, the issues that religion makes us confront can be seen as dragging, ancient and in need of total (impossible) removal. But this kind of segregation "only ensures that religion enters politics by a different route" (Nandy, 1989: 39): fundamentalism.

Undoing these false divides involves re-negotiating a lot of enlightenment thinking. This is probably why the contemporary Indian art world remains aloof from addressing religion even as right wing fundamentalists continually reconceptualize it to suit their political goals. The liberal flight towards secularism only strengthens the right's power to colonize religiosity with its own readings. If we do not enter into the debate of what the devotional could mean today, we concede to the idea that religion has a "pure form" which is simply not worth challenging or engaging, that it is not something to be negotiated or re-interpreted.

Trinh Minh-ha asks, in her film, Forgetting Vietnam, "what is the role of women in religion today?"(Trinh, 2015) While the upholding of religion across the world strongly features men, the practice of problematizing, de-naturalizing and revivifying religion is a feminist one. If we move from the understanding that "societal norms are being read onto religion rather than it being the other way around" (Mani and Frankenberg, 2007: 100), interesting possibilities open up for thinking about artistic gestures in the religious sphere.

The term *SacredSecular* as posited by Lata Mani in her 2009 book of the same name expresses the inseparability of sacred and secular experience. It posits that one need not think of the two frameworks as incompatible (Mani, 2009: 1–2). *Compositions…* aligns to this call to renegotiate the sacred/secular divide.

Burnt onto a generic audio CD, we hand over the song to the temple caretaker to play on their sound system. The piece begins with that which is recognizable. It is a gesture to acknowledge and invite the listening ears of the temple-goers; it becomes a base from which we can shift as the piece progresses. We appropriate a popular Sai Baba bhajan,[6] keeping the rhythmic and melodic structures of the original. We layer on top the sounds of digitally rendered bird calls, and electronic instruments. And within the first few minutes of the piece, wafting hints of traffic sounds start to appear, blurring distinctions between the natural and the constructed.

4.2 Negotiating the Sacred/Profane

If the sacred/secular divide is one axis on which we are navigating, the sacred/profane becomes another; where profane comes from the old french root meaning "outside the temple". Following Durkheim, the profane is identified interchangeably as that which is not-sacred and as that which is anti-sacred (Durkheim, 1965: 37). Within the context of Hindu religious practice, I think it more relevant to work with (and negotiate with) the first distinction. And, as with the re-interpretation of the sacred in light of liberal secularism, the resounding question is, who has the power to negotiate what constitutes the profane?

Something that is yet to be included in the category of devotion is that which is dirty. The unclean is not fit to speak of love for the divine. The clearest manifestations of this belief happen via caste segregation. Lower castes have historically been simultaneously assigned the task of scavenging and cleaning the waste of society while being ostracized from associating with others in public places. It was, and is, important to those in power that waste is cast(e) as something that can be banished from contemplation. An older use of temple music was to warn the lower castes of coming too close to the festivities of the higher castes (Karel, 2003: 63), in fear that they may contaminate the site of celebration. Once again, as mentioned in section 3, subliminal barriers are in place to ensure that certain castes remain segregated and paired with the profane.

4.3 *Kaka*

Bangalore is noisy. It is noisy because of the two-wheelers, three-wheelers, four-wheelers, six-wheelers (not so many eight-wheelers yet) on its narrow roads, the honking of hurry, the rattling of breaking-down busses, the crisscrossing of jet planes... It is also noisy because Azan[7] calls five times a day, the temple sings devotional music in its efforts to purify the air, the Church bells ring to tell the time. It is also noisy because the divine presents itself here in millions of ways, and we take pride in denseness and vastness. We love watching T.V., pressure cookers cook rice faster, some children are just learning the drums and we all live so close to each other. The white cheeked barbets refuse to be drowned out by the traffic, the crows caw collectively as they swoop down to lay claim on

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[6] Free-form Hindu devotional song with simple, vernacular styles of singing or chanting; Sanskrit root that means 'sharing'.

[7] Muslim call to prayer. Azan comes from Arabic: 'to listen', 'to hear'.

the dead rat, the rain falls hard on tinned roofs... It is noisy because this plurality of sounds are being freely made and listened to at the same time. Here, noise is heterogenous. And there is, undeniably, a sense of being in everyone's world all at once.

R. Murray Schafer calls noisy cities "sonic sewers" (Schafer, 1969: 19) – sewers trying to contain this impure material that has nowhere to go but is everywhere at once. Seen as a form of excess, it is no coincidence that noise has affinity to the word pollution, or that it has its roots in nausea, alluding to the urge to vomit. Cacophony is *kaka*(feces)+phonē. That which is internal, exceeds, threatens to spill outwards. It is too much to handle. When considered in this way, noise threatens the neat division of inner and outer, as if these could ever be so easily divided. "Inner rot" threatens the world of public interactions, and contagion threatens to reenter the palace of private life – because sound always moves away from its source.

That which is not fit to speak is said to make noise. Seen within a set of social and spatial relations, the excluded become noise ("The rest is noise..."). When the voices of slaves and women were considered noise in ancient Greece (Bingham et al, 2010: 33-35), or when the sound of Azan is legislated to be disruptive, they are socially categorized as noise before they become perceptual facts. And so, while the act of framing these temple songs as noise pollution comes from the liberal position, conveniently coupled with the secularist impulse; the temple itself can be seen as speaking over the noise of the city by making present the sounds of devotion. In both cases noise becomes a highly subjective phenomenon, and the problem of noise is notably a problem of intimacy. Moving from noise, then, would allow us to address the intimacies between the temple and neighbourhood around it.

And so, another question for the piece, what could it mean to make *noise music* in Bangalore, where everything is already noisy? Surely, it's not about being louder – and disruption is hardly possible. We wanted to think about the *kaka* in cacophony, about noise as that which is banished from contemplation. Could the sonic sewer could be as much a vessel of devotion as anything else? We already have the permissions of the spiritual ideal of immanent god(esse)s; we have been taught that all material things, even trash, have something to teach us (Mani, 2009: 8–12).

The first movement of the piece eventually slows down in tempo, unravelling the constituent instruments of the composition. The chanting becomes irregular, the instruments let loose, and only the cymbals continue to chime faintly as the electronic instruments take over the composition. This part of the composition includes many of the sounds that the temple speaks over, particularly the sounds of sewers, drainpipes and basement architectures (the *kaka* of cacophony). The harmonium peaks with screeches that resemble the traffic on the streets, that resemble the calls of the birds above. It highlights the intimacies between the different sounds and noises in the neighbourhood. While the temple stands in for the ritual cleansing of the dirty (which in the Hindu fundamentalist order has come to include 'lower' castes, unchaste women, Muslims, dissenting students and other non-believers) the piece attempts to recalibrate what could become part of the devotional. Moving slowly from the recognizable sounds of Hindu devotional chanting, slipping in mud, wandering down drains, through kitchens and

balconies, the piece had the effect of slowing down the passing of time, of inviting the birds to respond to it, and eventually becoming quite imperceptible from all that surrounded it.

4.3   Sonic Camouflage

The final section of the composition consists of field recordings from the street and park adjacent to the temple. Our desire was to move towards something that could collapse the sonic territories that the temple was establishing; to create a sort of sonic camouflage. Like the trope of the invisibility cloak in thriller films, our song begins by being clearly discernible, but over time becomes only slightly distinguishable from its surroundings. If the music from the speakers could be heard as initially trying to *speak over* the noise of the neighbourhood, it gradually finds a way to *speak under* that noise.

At this point, I want to make a note on the physical speakers themselves. They are PA speakers; boxy, old, tinny, cheap. They are aimed at the street. They have been repaired many times over and are worn out from years of use and exposure to sun, dust and heat, they sound tinny, distorted and claim no affinity to fidelity. To compete with the loudness of the street, the sound that they play is amplified beyond the point of distortion. As mentioned before, the speakers are the threshold of sonic and social potentialities in this project. Their sounding abilities do affect the kinds of listening that can take place around them. For the temple board, this is a listening that cannot afford to be concerned with fidelity. It is one of remembrance and familiarity, an associative listening; a devotional listening that is, in a way, forgiving and inclusive.

It was, in a sense, these distort-ing speakers that saved us from getting into trouble with the temple, which could have gotten quite messy given the current state of affairs.[8] When it was played from the temple's sound system for two evenings, the priests and temple caretakers did not seem to mind our devotional noise music. They simply dismissed the loud shrieks and gurgles as a scratched CD. In a sense, this was what he had hoped for. Our confidence that this "anti-anti-utopian gesture" (Jameson, 2005: xvi) would be able to wedge into the sonic protocols of the temple came from knowing that this is not a work *about* the devotional; it *is* a devotional song. But it also came from understanding the power of that desiring-listening that takes place within and around the temple. As Bonnet puts it, "desiring-listening is the listening that perceives in the object that it targets a certain promise" (Bonnet, 2016: 135). If one is listening for the devotional, the devotional sounds open up to find them. If one listens for the noise, the noise will find a way to surface to the top.[4]

Sound art has often made the emphasis on the heightening of awareness towards sound objects. Sound works often make demands of the listener to be present, to be rapt in their attention to previously ignored details, to be ever more aware of themselves as listening subjects. In this work, such demands are not made. Sonic camouflage, the imperceptible or the barely perceptible (*kaka*) become important to staging a gesture that aimed to become an atmospheric base within which to think *from*.

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[4][8] One might be accused of being both sacrilegious and anti-national in the same breath, given the Hindu-national ideal.

A second composition is now being made for another temple with a different set of spiritual and spatial concerns.

5   Moving Forward

The temples are one node for these compositions to circulate through. There is a second kind of audience/forum for this work — a more dispersed audience (gathering over so-called secular activities like art, politics, food, etc). Beyond the location of the temple, these songs become atmospheric traces, entering the sphere of art as somewhat awkward guests. For an audience that is familiar with the chants that are being appropriated, or with the soundscapes that they are heard in, these might become *speculative ambient recordings* of possible temple music. Here, the *speculative world* is not deferred to a distant future, or even a near future. These recordings offer a speculative present, an *as if* moment (CAMP, 2014).

The next phase of this project will be the hosting of collective listening sessions to the compositions beyond the sites for which they are designed. The goal of the listening sessions will be to generate writing on the subject of devotion that comes from the experience of listening to these compositions. Brandon Labelle observes that "as listeners we become excessive subjects — becoming more and less of ourselves, transgressed by the invasive and voluptuous messiness of sounds" (Labelle, 2006: 299). Francois Bonnet, in a similar vein, notes that "listening is a matrix of fictions" (Bonnet, 2016: 192). The hope is that the compositions will trigger these excessive subjectivities, these *desiring-listenings,* to produce textual meditations on the nature of the secular. These sounds and texts will populate a field that is currently saturated with either voyeuristic or journalistic prose. I believe that the compositions allow for this as they do not endeavour to define or critique any one subject position, but rather to create atmospheres that are awake to potentialities, like slight changes in the weather.

6   Conclusion

Sound and noise tend to highlight that which is uncontainable and are thereby closely linked to issues of intimacies. When considered outside of the notion of the forward propelling arrow of time and progress, moments like waking up to the sound of temple music force us to think about how we can joyfully make within conflicting plural spaces. In a field that is occupied by forces that are trying to *speak over,* this gesture involves *speaking under;* it is a background score to thinking about devotion. As an interventional exercise in ambient/sound/design, *Compositions for Temple Speakers* is a work made from knowing that we live in everyone's world all at once.

This paper draws from a zine publication also titled *Compositions For Temple Speakers*, co-edited with Prerna Bishnoi.

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34. The Brazilian musical experimental scene is wearing skirts! The work of Natacha Maurer, Renata Roman and Vanessa de Michelis and the feminization of the field.[1]

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Abstract. In this paper we present three artists of Brazilian experimental music scene, working with women's inclusion in the field. Natacha Maurer and Renata Roman produce, since December 2015, a series of concerts called *Dissonant,* where female participation has to be at least fifty per cent of all artists. Vanessa de Michelis ministers since 2013 workshops for "*stage assembly do-it-yourself*" for women and lesbians. We try to point the profile of this field, demonstrating the importance of the work that these three artists / composers have developed especially through the launch of other women in this, but also for its own artistic and pedagogical work (in the case of Vanessa), mainly in the present political moment in Brazil, characterized by an institutional coup that was forged from old marks that are still very current in Brazilian society such as misogyny, sexism, elitism and racism. We use the notion of *field* developed by Pierre Bourdieu, and references as Georgina Born and Rosane Borges. For writing the paper we interviewed the composers/creators and important producers in the field. We also analysed documental sources like concert programs, CD's inserts and concerts calls on the internet.

Keywords: Natacha Maurer, Renata Roman, Vanessa de Michelis, Dissonantes *(Dissonant),* feminism, Brazilian experimental music.

1. Introduction

The impression that women are more present in the scene of experimental music in recent years is not by chance. Throughout the twentieth century women were gradually occupying spaces and rights in Western societies that before were massively occupied by men[2]. Since the right to vote, the right to study and to have careers, women have increased their social participation in almost all sectors. This can also be observed in culture and the arts. However, as pointed out by Michelle Perrot in *Minha História das Mulheres (Mon histoire des femmes)* (2008), in the fields of artistic creation, specifically in the visual arts and music, the inclusion of women was and is more difficult than in other fields[3]. Regarding the field of Western Classical music, the author stresses the invisibilization processes of women of most prestigious positions and jobs, such as the

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1We'd like to thank the three composes/ creators Natacha Maurer, Renata Roman and Vanessa de Michelis for their great availability to talk to us and answer all our questions. Also, we'd like to thank the composer/ producer Mário Del Nunzio for giving us important information about the experimental musical field in Brazil and also to answer doubts about the field. Finally, we'd like to thank Júlia Mello Neiva who helped with the Portuguese text translation into English in so little time.

2It is important to note that women have always worked and always participated in public life. When we say that women begin to occupy spaces before "perpetrated by men," we are referring to the careers, rather than work, because in the field of work, women, especially the poorest, have always been present, although in much more precarious conditions than men. When we think of "career", however, there is a significant increase from the twentieth century as a result of feminist social movements, the needs of the capitalist system that is always in needs to expand the consumer market and the hand of productive work and so many other reasons. (VENTURI and GODINHO, 2013; PERROT, 2008).

musical composition and conducting, as said by several other specialized authors in music such as Georgina Born (2016), Christina Scharff (2015), Susan McClary (2002, *1989)* and many others.

The same can be said regarding other different musical genres. In a study by Georgina Born (2015) it is pointed out the quantitative discrepancy of female students and candidates for vacancies in music courses and technology in England in relation to male students. The researcher also compared the behaviour regarding males and females in the fields of *Music and Technology* (MT) with the field of *Traditional Music* (TM). In absolute numbers it was observed that there are many more girls and women that are students and girls and women candidates in the field of *traditional classical music* than in the field of music and technology. (BORN, 2015: 146)

This phenomenon was also observed by the researchers/musicians/professors Andrea McCartney and Ellen Waterman in a study with women sound makers, which sought to understand their trajectories and propose feminist actions to change the field, to make it friendlier to women. In this study, from 2006, the authors state: "Overwhelmingly, women have been marginalized in fields where creative work in sound and music meets technology" (MCCARTNEY & WATERMAN, 2006: 4). Even the electronic composer and sound maker Tara Rodgers, author of the book *Pink Noises* (2010), who claims having never perceived in her career any difficulty to enter the world of technology, states in the introduction of her book that the sexist imagery is strong and that she was surprised to find the technological side of her mother, aunt, grandmother and other women in the family. (RODGERS, 2010: 01)

Technology and electronics are areas commonly associated with male and this association is cyclically reproduced reinforcing a sense of masculine or feminine nature, more or less suitable for certain areas. (Bourdieu 2004).

Considering that in the *experimental music* field there is a great use of technology it tends to be extremely masculine, both regarding people who make the music and the audience. In the context of this article, we address the *experimental* music thinking of practices such as *noise - noise music, improvisation, free improvisation, live-electronics, manipulating objects, circuit bending, sound-art, live-cinema, performance* and others, supported mainly by the observation of the field in Brazil and in the literature (scientific or otherwise).[4]

3In this article we use the term *field / fields* according to Bourdieu's theory of organization and social policy. *Field* is, according to Bourdieu, a social symbolic space of internal power struggle between its *agents* (people) and the dispute between it and other social *fields*. Within each field agents occupy different places representing greater or lesser power, which is established by internal rules of the field. Roughly, they can occupy the dominant or the dominated place, and their social position will, within their function, repro - duce processes of the consecration rules of the field in question, contributing to the maintenance of a particular culture. There is, for Bourdieu, endless *fields* in societies. There is the literary field, the medicine, the music - within which there are other sub-fields that establish among themselves hierarchical relations - which, even having some autonomy and independence also relate disputing power in the macro-structure. This power is both objective as symbolic and it is what determines the place of the social agents. For the sociologist, the idea that nor the fields, nor the agents are fixed in history is valid, however, by its own characteristic of produc - tion, reproduction and recognition of cultural relations, which is marked by cyclically movements, there is a lot of inertia to the ef - fective transformation, especially in relation to symbolic issues. The author emphasizes the idea of the difficulty of change especially when looking at *male domination* present in different cultures and in all fields he could imagine. (Bourdieu 2004, 2004, 2003, ORTIZ, 1994).

4Speaking of *experimental music* as a closed category or resolved concept is complicated. The term can be used for many different practices that have nothing to do with each other except their distance (aesthetic, methodological, ideological or combinations thereof) of the so - called *traditional* practices in classical music or popular music. Academically, it is common to associate the *ex- perimental music* as an aesthetic and musical attitude with strong influence of the Italian Musical Futurist movement, whose most ob - vious name is Luigi Russolo. From the Italian Futurist movement, sounds, previously considered as noise, not likely to be associated with music, now can be considered to be as much as interesting sounds for musical use (which maintained its reference character) or as sounds used as raw material for music (being manipulated and inserted into musical contexts in which their referentiality is

2. Natacha, Renata and Dissonantes (Dissonants)

Fig. 1. Natacha Maurer and Renata Roman performancing. Photo: Mario Del Nunzio.

Natacha Maurer and Renata Roman met in the experimental music scene of São Paulo, at Ibrasotope – space / collective oriented for the production and dissemination of experimental music in town[5].

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avoided). So, briefly, the noise becomes incorporated into the music making of the twentieth century. This use, however, will be different for different groups and it (noise) achieves different status itself too. From the 1950s, there is, for example, in France, Pierre Schaeffer research group looking for a specific listening and a sound experience independent and autonomous from their origin or context (Palombini, 2001: 03). On the other hand, there was in the United States at the same time, a group of composers exploring the *sounds* and the *music making* both with traditional instruments, and unconventional instruments, quite differently from the French group. John Cage plays a central role in this context and proposes the term *experimental* referring to a practice and a musical attitude towards sounds (NYMAN 1981: 07). From these two main streams that used the *experimental* term in different ways, it is now common in the academics, talking in a certain dispute between the *avant-garde music* associated with European music and *experimental music,* associated with the American group, view proposed by Nyman (1981). (FENERICH, 2015; NYMAN, 1981). In this study, however, this discussion will not be addressed. Using the field concept proposed by Bourdieu, we try to understand the characteristics of a given Brazilian musical *underground* culture, mainly characterized by some recurring uses of technology and approaches with regard to music, with frequent improvisation, the use of amplified sound objects, *electronic toys, manipulation of electronic and digital interfaces and* many others who build an *experimental* culture in order to be inviting to practices still not as established or consolidated.

5 Ibrasotope is a *collective / space* oriented to produce, promote and disseminate the experimental music in São Paulo. Today it is one of the main experimental music centers in the city and in Brazil, accounting for various national and international experimental music series and partnering with other producers from the field. In Ibrasotope house, the first floor serves as home for some artists (there is a fairly active stream of locals passing through the house). Mario Del Nunzio is the owner and also lives there. The ground works as a space for concerts, courses and the activities of Ibrasotope itself. (IWAO, DEL NUNZIO, 2009).

Fig. 2. Natacha Maurer in performance with *Brechó de ostilidades Sonoras (Hostilities Sounds Thrift Store)* in presentation in São Paulo nightclub *Trackers* 2015. Photo: Luis Germano

Natacha, producer of Ibrasotope since 2010, also started her sound and musical experimentations in the same year when she moved from Sao Jose dos Campos to the capital and went to live in the house *Ibrasotope*.[6] The artist says that she began to make music "more or less naturally", as she was living in the house and was there all the time producing the events of Ibrasotope. She began attending the workshops held at the place in 2010 and doing research on her own (MAURER, 2016)[7]. In 2015 she created the duo with Marcelo Muniz, the *Brechó de Hostilidades Sonoras (Hostilities Sounds Thrift Store)*[8]. Today, the artist, in addition to working with Marcelo, has been presenting "more or less alone"[9] (MAURER, 2016) and also with other partnerships, such as the duo with Renata Roman, with whom she has performed a few times. The first time they performed together

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6 Today, the artist no longer lives in Ibrasotope, but continues with the production activity of all series produced by the collective/space, next to Mario.

7 Natacha Maurer in an interview / conversation with the researcher Tânia Neiva along with Renata Roman on May 23, 2016.

8 The *Brechó de Hostilidades Sonoras* is an improvisational duo formed by Natacha Maurer and Marcelo Muniz using objects such as toys, biscuit tins, household items processed for performance with piezo microphone insertion and others.

9 "More or less alone" because it is not with a pre-formed group, as with the *"Brechó...",* for example, or the duo with Renata. She presented in Rio de Janeiro, in *AudioRebel* (shows/concerts house, store and recording studio dedicated to experimental and alternative music) with *Crisis Victory* (William Darisbo) *Szkieve* (Belgium / Canada).

was during the XIII ENCUN last year (2015), in Campinas, São Paulo.[10] The artist/producer believes that her work producing music began, in fact, with the XII ENCUN in 2014, held in São Paulo. In 2015 she produced by Ibrasotope the I FIME - International Festival of Experimental Music, which featured this year with its second edition (2016).[11]

Natacha has an intense production career, working on several different projects, both national and internationally[12]. In both the roles - as an artist and a producer - Natacha complains of the scene to be (and always have been) very masculine, saying she had known few women since she began attending the field.

As well as Natacha, Renata Roman also began working with music/sound in 2010, at the end of the year. She studied acting, but after experiencing an *epiphany* regarding the soundscape during a trip, Renata completely changed the course of her career. The artist had already had contact with radio[13], but it was after a very strong experience with *sounds* she started to make *music* or art with sound (sound art, radio *art,* soundscape and others):

> I started working with sound at the end of 2010, on my own. Because of an epiphany. It was not me who chose the sound, the sound chose me! (...). I was at the Tate [Tate Gallery in London] waiting for a friend of mine and I started to pay attention, "Wow, so many different languages ..." Then I was listening ... I had an enlightening! I had an epiphany! (...). It was a music experience that I had never ever had in life, so I said: "That's what I want to do the rest of my life!" And I did not know, as it was a very distant world of my own, I did not know that was a soundscape! (ROMAN, 2016)[14]

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10 Encun, former National Meeting of University Composers and current National Meeting of Sound Creativity, came in 2003, proposed by a group of undergraduate students of music-composition of Unicamp, with the central figure of the composer Valério Fiel da Costa. The meeting is annual and itinerant, and one of its most important features is the no curator work. It is open to various proposals claiming that this is the only way to reflect a more representative current compositional musical culture in Brazil. (IWAO and NUNZIO, 2009)

11 FIME - International Festival of Experimental Music. The first edition of FIME was in 2015, proposed and produced by Ibrasotope. In the first edition there were ten days of uninterrupted programming. In the second, there were fifteen. Despite the festival have had only two editions, FIME, has already set the scene as an important festival, having brought icons names of experimental music, such as the group *Full Blast* (Germany) and *Dror Feiler* (Sweden). An important feature of FIME is a concern to have female representation. This was verified in both the first and in the second edition in which, among the curators were the composers/ artists Lilian Campesato (curated the first FIME) and Fernanda Navarro Aoki (curated the second FIME). In 2015 there were 29 men participating as musicians/ composer and 8 women, totalling approximately 22.6% of female participation. In 2016, there were 45 men and 18 women, totalling approximately 28.5% of female participation. View: http://www.fime.art.br/2015/pt/ and http://www.fime.art.br/2016/pb/#artistas .

12 During the conversation / interview the with artist / producer counted six projects that were in progress simultaneously, which she was producing.

13 During the 1990s Renata participated in a free radio call *XI August* linked to the eponymous academic center, at the USP *Law* School. She had, at the time, complete freedom to create. One of the programs created by Renata addressed several artistic languages. Another project with radio attended before entering the music / sounds career was to create a core of radio creation, for the "radio *XI ...*" She came to broadcasted four radio plays. (ROMAN, in 2016. Testifying via Facebook chat with Tânia Neiva).

14 Renata Roman testified during an interview with Tânia Neiva and Natacha Maurer on May 23, 2016.

Fig. 3. Renata Roman. Personal archive.

Decided to work with sound, Renata began to study alone - listening to lots of music and experimenting (recording and editing sounds, making short pieces). Soon after she already had some music and in 2012 she had a piece selected for the *FILE-Hypersonica*[15] and the *30th International Biennial of Art of São Paulo*. Since then, she has received orders and invitations from several countries in the world, as Argentina, Portugal, England, Germany, Chile and others, mainly to disseminate her radio-art work, but also her works of soundscape and sound art. Recently, in March 2016, she participated in an artist residency in Cuba in ISA - Art Institute of Havana, invited by artist and curator Biba Rigo. She also recorded some labels, and was invited to participate for the third time in the CD produced by *NME*[16]. In early October 2016, her first solo CD was released by *Seminal Records*[17]. The artist has an intense career.

15One of the most important international events of *electronic language* which takes place annually in São Paulo since *2000.*

16NME – "It's an itinerant space for promotion of experimental music" (NMELINDO in https://www.facebook.com/nmelindo/about/) founded in 2011 by a group of composers. They also are the founders of the Linda eMagazine.

17Seminal Records is a Brazilian independent label specialized in "experimental music, including electroacoustic, noise, electronics, free improvisation, conceptual and bizarre productions." (SEMINAL RECORDS in: https://seminalrecords.bandcamp.com/). Created in 2014 has as members: Henrique Iwao, Alexandre Fenerich, J.-P. Caron, Marco Scarassatti, Matthias Koole and Sanannda Acacia. It has released 36 albums since then, the last being the Renata Roman. – *OYE.* The seal has been highlighted by the intense and uninterrupted production, being the independent label in the field that released more albums in 2015. It also has been supporting the work of women and launched so far, six albums of women, representing approximately 21.5% of total production of the seal. Women who have had their work published by Seminal were: Renata Roman, Isabel Nogueira, Bella and Sanannda Acácia. See http://culturadissonante.blogspot.com.br/2015/12/seminal-records.html .

Regarding the female presence in the field she says:

> As a frequent visitor to the scene - I attend not only Ibrasotope, I go to other spaces and other groups - I realize that most are masculine and most women don't go alone. They accompany their husbands and boyfriends who are playing or who are going to see the concert. (ROMAN, 2016)[18]

2.1. Dissonantes (Dissonant)

From the perception that the field of *experimental music* is overwhelmingly more male than female, both regarding artists who present themselves as well as the audience, the *Dissonantes series is born,* in December 2015, produced by artists/producers Renata Roman and Natacha *Maurer.* The monthly series has as a declared intention to promote women artists of experimental music scene, creating opportunities for presentations of these women as well as an environment of empathy, *sisterhood (or sorority)* and complicity. To join, groups must have at least fifty per cent female participation, and they must necessarily be the highlight.

Fig. 4. Compilation of programs of all presentations of *the Dissonantes* series until September 2016.

From December 2015 to September 2016 seven presentations were held. Many of them had women doing their debut, or women who already worked with experimental music within a group (usually of men), or women who worked with music and other media (but who had not yet presented solo) or who had yet not worked with music.

18In an interview / conversation with Tânia Neiva along with Natacha Maurer on May 23, 2016.

Retrospectively the presentations were:

1)   December 2015: Acavernus (Paula Rebelatto) and the duo Natacha Maurer/ Renata Roman;
2)   February 2016: Júlia Teles and Marcela Lucatelli;
3)   March 2016: Ariane Stolfi and Flora Holderbaum;
4)   April 2016: Bella and Carla Boregas;
5)   May 2016: Aline Vieira and Paula Rebelatto
6)   July 2016: the duo Isabel Nogueira/ Leandra Lambert and Sanannda Acácia;
7)   September 2016: Gabriela Nobre (b-Aluria) and Tania Neiva[19]

Overall, up to now, there were 15 different women who performed at *Dissonantes.* From December 2015 to August 2016, a total of 74 different men and 21 different women presented in Ibrasotope[20], for example. These women represent a percentage of approximately 22% relative to the total artists. If we include in this sum women who performed at *Dissonantes* in the same period, that is, that were included in the scene of experimental music in São Paulo from December 2015, the number increases from 21 to 36, increasing the percentage of them to approximately 32%. There *is* no denying the injection of representation that Dissonantes provides to the scene.

Both Renata, as Natacha know the importance of the project and the impact it has caused in the field.

> Change is in Dissonantes! (...) We are doing and we are feeling what we're doing to women. In the last concert it was the first time since I started attending the scene - Natacha has been attending longer than I have-, it was the first time I saw more women than men in the audience! (...). So I think the Dissonantes is making history, Tânia! It is a very important project! (...) And there is even a production that is different. It is very curious! (...). In Dissonantes I hear things I do not hear in the experimental scene! It is different! Because you, when attending the scene, [you realize that] eventually things become very similar... and in Dissonantes you have more aesthetic diversity! (ROMAN, 2016)[21]

Here, Renata suggests that, in addition to *Dissonantes* contribution to a feminization of the experimental field in São Paulo (and possibly in other locations in Brazil) it is also contributing to an aesthetic diversity. This was addressed by the composer/performer Marcela Lucatelli in an article on the *Dissonantes* series, published in the electronic magazine *Linda* (specialized in experimental and electroacoustic music culture):

> (...) The Dissonant inevitably surprises. There, we hear what is not heard often around: women artists, with its many singularities, creating absolutely at ease, presenting us often with their first performances in solo format, comfortable to try new settings in their work and encouraged to collaborate with other artists. (LUCATELLI, 2016)

19Both Tânia and Gabriela or b-Aluria, from the *Dissonant VII,* were women who debuted in Dissonantes as composers.

20We are using Ibrasotope as a reference for understanding the collective / space is currently one of the most important in the experimental music scene in São Paulo and Brazil, both at time of constant activity as the projects developed enabling a comprehensive view of the field.

21In an interview / conversation with Tânia Neiva on May 23, 2016.

Natacha emphasizes the positive psychological factor that *Dissonantes* brings for women: "The Dissonant bid for me is bidding to feel at ease both, you know, choose to play alone, or choose to debut something, or even feel free to go watch" (MAURER, 2016)[22]. The question of *feeling at ease* is emphasized also by Marcela Lucatelli in the same article mentioned above, associating that feeling with empowerment processes:

> And it is precisely here that a sign of unconditional importance comes up fostering the "feeling comfortable", whatever the situation: that sense, I would say, of *existential mobility,* is responsible for establishing an environment where it becomes easier both to create and actively pro-break patterns of inequality and oppression, simply. The Dissonantes series then appears to provide not only to women but to all stakeholders this place. (LUCATELLI, 2016)

In addition to the positive perceptions that Renata and Natacha have about the project and also the numbers presented before that confirm an increased female presence in the field, it is important to say that the series has been very well received in the environment. Renata and Natacha produce *Dissonantes* without money. They depend on partnerships with venues and other producers. The place for presentations is not permanent, it depends mainly on the profile of women who will present (the infrastructure they need) and the partnerships the producers can establish. Thus, their *social symbolic capital* (Bourdieu, 2004) is highly important for the success of the series. The money raised (usually voluntary) in the presentations is divided among the participants. So far, Natacha and Renata had no difficulty in establishing partnerships. It should be said that besides being well accepted, it has also aroused great interest. In less than one year of existence three articles were published addressing the series (one is ours, the other two are one by Marcela Lucateli and the other by Gabriela Ferreira.)

3. Vanessa de Michelis and workshops for women

22Idem.

Fig. 5. Vanessa de Michellis. Personal archive

Vanessa de Michelis works with music, sounds, technology and education. The composer, from Minas Gerais, has a Bachelor's degree in design, with an emphasis on sound design. Her initiation in music was through the guitar, with which she still makes music today. Since 2013 Vanessa has a band called POST, formed by herself and the drummer Jiulian Golçalves. She played in punk bands and after a while started to make electronic music, developing work as a DJ and as a producer. The electronic music led her to experimental music, and then, back to the guitar. The musician and educator works in different ways, exploring and making soundscapes, experimenting with different instruments, as well as conventional ones such as guitar or trumpets, or others made by herself (DIY tools - do it yourself). She makes electroacoustic music, field recordings and other things. She entered the field of experimental music in 2007/2008 and has an established career, having received some awards such as *Art.Mov - Brazil*[23], *FILE - Hypersonica*[24] and *43rd Brasilia Film Festival (BRA)*[25]. She also participates as an artist and as an educator in events of the experimental scene in several countries like Brazil, China, Chile, Colombia, Canada, United States, Germany, France, Sweden and England.

The political-ideological question permeates the artistic and pedagogical work of Vanessa in the sense that the musician/composer/educator doubts and questions the way of making art that perpetuates hierarchical, unequal situations, which maintains a privilege system in which the artist is privileged. In this sense, Vanessa refuses the title of artist, and most importantly, she seeks to do an aesthetic work through a methodology of do-it-yourself, for example, which is more consistent with her ideological beliefs. Because when dominating the tool mechanism process that the *do-it-yourself* presupposes, there is an empowerment achievement, which is, as she says, opposite to the idea of doing *art for art's sake, for example.* At the same time, she really focusses on workshops usually given

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23Festival of mobile media that takes place since 2006 in the country.

24The same award Renata Roman also won previously mentioned.

25She received the award for best soundtrack of the film *"Residents"*.

to groups of the so - called *political minorities* - women, lesbian women, LGBT communities[26], groups of youth from poor neighbourhoods and others.

> I think the work is often a means for dialogue and for a personal transformation that overflows the expository presentation format, which gives priority to work as an end. Therefore, through the "visibility" of the work it generates "invisibility", silencing and hierarchy of the relationship between the audience and the artist 's figure. (...). I'm interested in closer contacts with fewer intermediaries. (…). I refer to a type of work or project whose goal is to empower and somehow break the logic of the product, consumption and power relations. (MICHELIS, apud GONTIJO, 2014: 212)

The workshops for *stage assembly* for women, was born from Vanessa's experience in feminists and anarchists festivals and meetings. In those events it was usual to workshops for specific audiences, such as black women, lesbian, LGBT - non binary collective, to take place. Gradually, Vanessa began to be invited to minister these workshops mainly for the lesbian audience. In 2013, she had her first opportunity to offer a *stage assembly* course for women outside the political festivals and meetings, in an event curated by SESC - Ipiranga - São Paulo, oriented only for women. The idea of working with the female audience on *stage assembly* came from her own insertion in the field of independent music. In this scene the composer knew many girls who had a band or would like to have, but had little technical knowledge regarding, for example, amplifier adjustment, operating pedals and stage assembly with different setups. The workshop in SESC (2013) lasted for two months with two weekly classes. Parallel to this course Vanessa was also teaching, at the same place, a workshop of *circuit-bending and craft electronics* for mixed participants. The girls who were attending the *stage assembly* workshop took the opportunity and also participated in the other one: "So suddenly, the electronic and circuit-bending workshop had ten girls, ten lesbians!" (MICHELIS, 2016)[27]. From that event on, the electronic and circuit-bending workshops the composer use to minister began to always have female students. Today, the female participation is the majority, when it´s not the total. To this regard she says:

> I think it's amazing, because the network that was raised around these courses. This is making it possible for these women to disseminate knowledge to other places too .... It has become a network of women ... Of course, there´s always one or two boys or men (...). This is now something that has no coming back, because the network has been established, the contact has been made, the knowledge is already there and people have appropriated it. So, I don´t see anymore any longer, a place where you do not have a majority of female audience, in the workshops I give! It is mostly women working with me" (Idem)

The workshops for women, taught by Vanessa, extend the possibility of autonomy to women with respect, for example, to technology and electronics, so strongly associated with male. These often operate within male logical (to have mainly been made and designed by men who, inevitably, leave a gender mark on the product). When women deconstruct these gender marks by using the tool, technique, knowledge, and experience, they are empowered and can dispute in a more balanced way the social/political/cultural space. Sometimes this process is only possible in environment without men because,

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26LGBT - acronym to designate identities of different genres of man-cis / woman-cis binomial. It means: Lesbian, Gay, Bisexual and Transgender. Today, the acronym no longer aware of all categories of possible gender and there are several groups that use one or another variant of this acronym according.

27In a testimonial by what´s app to Tânia Neiva.

often, it is a path that involves deconstruction of female identity itself that women built up over a lifetime and the male presence can inhibit this process.

The workshops focused on female and lesbian participants already bring a more specific political content of empowerment than if it was targeted only for women because it encourages the questioning of the very heterosexual normativity that prevails in the field of experimental music. So, her job is to, at the same time, teach women and lesbians to have autonomy, for example, in the case of stage assembly, and also encourage us to realize and question the construction of the experimental field in Brazil regarding gender identity and sexual preferences of women who are part of this field.

Conclusion

The *Dissonantes* series produced by Renata and Natacha and the workshops given to women by Vanessa, as well as the trajectories and works of the three composers, are configured as processing seed in such a masculine field and heteronormative as the experimental music. From these examples, these models and the possibility to know each other, to know who are the women of experimental music in Brazil and to show them to the country, we can:

- Deconstruct the idea that technology, electronics and things alike are for men;
- Turn tools according to our demands and needs, also leaving a mark on them;
- Create and disseminate female representation models (with gender identity diversity);
- Have more women working as artists/creators;
- Have a growing female audience;

- To make it possible for both women and men to have more ethical experiences through a more equitable and representative music making.

As stated Rosane Borges speaking of representative / visibility, or the *lack of* related to black women in politics. Despite the context here is another, we understand that the problem of representativeness or *the lack of,* runs through the gender issue within the experimental musical field in Brazil:[28]

> The exercise of the visible began to act in accordance with a new standard: everything that was hierarchical in the social recognition would have to disappear, and also to counteract the old marks of "privileged election", which is a characteristic of the aristocracy. However, the inherent inequalities of capitalism have deepened asymmetries based on race and gender, and these are two examples. The permanence of hierarchies, looking at it now through a different perspective, has brought about, at the very beginning of the twentieth century, an explosion of criticisms regarding the dynamics of representations of human groups. These criticisms have not stopped expanding and

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28Here, it is necessary to point out that the field of experimental music in Brazil, as far as we were able to realize is mostly white. With regard to women creators in this field, we could not find yet any black one. This can indicate, on the one hand, that this is an elite field that reproduces racial inaccessibility processes, or that, by own invisibility and silencing mechanisms that are reproduced at all social fields, the black women in experimental music has not been accessible to me, being made invisible to an addict vision.

entered the XXI century with expressive force, pulled the hook out of hyper-visibility. In the course of continuous flow movements in the transparency platform, the claims for public recognition are revived. According to Sodré Muniz, "visibility - the plan of appearances - is not a simple requirement because it raises problems of social recognition and human value. Therefore, it is a matter of ethics". (BORGES, 2016)

In this sense it is important to understand how Brazil has been behaving throughout its history with regard to women. In a time when the first woman democratically elected and re-elected President of the Republic has just been impeached through an institutional coup, accomplished on 31st August 2016, it is inevitable to perceive the mechanisms that allowed this coup to happen, including with popular support. The institutional coup suffered by Dilma Rousseff reflects an extremely elitist, classist, racist, sexist and misogynist society. (TIBURI, 2016). Misogyny in Brazilian politics is the result of old and ingrained processes in our culture that transcends the realm of politics, coming to different fields, such as the music itself, for example. However, the past 16 years the feminist struggles in the country began to change the landscape especially in relation to women's rights. In 2006 (during Lula's mandate), the Maria da Penha Law was enacted, for example. The law addressed, for the first time, domestic violence against women as a specific crime, giving the possibility to punish the offender. During the first Dilma government, the Secretariat of Public Policies for Women was created. It is objective was to listen to the demands of women in society and promote improvement mechanisms to better protect their lives. This was abolished in 2015 during Dilma's second mandate, because of political pressure from her opponents. The Ministry of women, racial equality and human rights was then created, bringing together such big agendas in a single ministry. (MACHADO, 2016)[29]. One of the first actions of the facto government of Michel Temer, when he seized power, was to extinguish the ministry. Yet, in his first selection of ministers, not even one single woman was chosen to join his government, demonstrating his inability to see women around.[30]

Although apparently these political issues have nothing to do with Natacha, Renata and Vanessa and their inclusive activities for women in the scene of experimental music, we decided to address this issue here because we believe that in the current political scenario of the country, where there are setbacks to social achievements (among them feminists). These achievements were gained with so much struggle, over so many years. The setbacks are so severe that they cannot be ignored in any social scene. The works of the three composers/creators, considering this current context, can inspire us - ethical and responsible women and men - to continue to fight for more democratic and egalitarian conditions in our country, now more than ever. That said, we conclude the article with the reflection by Rosane Borges on the need to change the rules that constitute the world, so that invisibility is no longer possible:

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[29]It is important to understand that in 2015 the opposition to the government of Dilma Rousseff was strengthened by a wave of protests incited by mainstream media around the corruption requesting the removal of the president, against whom, after all the process of impeachment, it has not been proven any corrupt act. Moreover, the greatest accusers of Dilma Rousseff are publicly known for corruption.

[30]To understand the degree of sexism and misogyny present in Brazilian society and evident throughout the process of impeachment / 2016 coup, a much more in- depth discussion would be necessary. However, we don´t have the intention to do it here. We pointed only glaring issues that indicate the existence of this misogynist and macho culture in the country, understanding that they are the same that make the experimental musical scene so masculine.

To consider the imaginary incidents as resources that predate us do not eliminate "the power of the individual" (Sodré), to diminish the importance of politics in its role to reinterpret, redesign and operate in the world in the way it is presented to us. Taking these imaginary incidents into consideration corresponds to the adoption of a political task that also requires background movements such as the functioning of the imaginary itself. That is, with regards to sub-representations or fractured visibilities, in order to promote the taking of positive images of stigmatized groups (already a great accomplishment) a distinct reading of the visual is required, with new rules that are able to accommodate the plurality of the universe. As Judith Butler stated it is not enough to dispute social recognition, it is necessary to change the rules that attribute different recognition. Therein lies our challenge. If "with every birth all of humanity is renewed", responsibility for building a different history, installing a new order, and the decline of the fixed and immutable presupposes challenging unwritten rules that unequally attribute value to human beings. (BORGES, 2016)

In our opinion, the diligent, respectful and inclusive works of the previously mentioned three composers/creators, this "challenging of the unwritten rules" is set, thus creating a different scenario for Brazilian experimental music.

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36. Loudspeaker Broadcasting in South Africa in the 1940s

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Abstract: n this paper I introduce the story of the first loudspeaker broadcasts aimed at black audiences in South Africa that took in the 1940s. I demonstrate how the South African state tried to activate the African public's imagination, using loudspeaker broadcasts, as well as other commemorative forms. he loudspeaker system was successful in several fronts: for one, it was fairly easy to install, at a low cost. Secondly, mineworkers were of course the largest workforce; capturing the mining working class into the listening population could control information to a significant African population in the Witwatersrand area. And finally, the loudspeaker broadcasts could be easily woven into the already existing 'entertainment system' of music-dance competitions, theatre and outdoor film-screenings. [1]Its infiltration went hand-in-hand with the white apartheid state's aim to make itself into an acceptable political structure. This was achieved through appealing to commemorative gestures such as izibongo (praise poetry), *Ingoma* and crowd-gathering. Because sound blasts whether you want to listen or not, as people walked by coming from work, or congregated they would unavoidably hear what was being said. The hailing of loudspeakers during the Second World War changed the sounds people heard and how they listened. It radically altered perceptions of listening and the circulation [of information] in public spaces occupied by black people. Public locations (such as beer halls and in open areas next to compounds/hostels served) were punctuated through audio markers. Furthermore, given the limitations placed on the broadcasts with designated times of broadcast and the brief moments given to music, even their routines became calibrated through sound in time and space.[2]Sometimes this state-led appeal to the sonic sensory was done simultaneously with a eradication of visual stimuli, as evident in the downplaying of the role played by black soldiers in the war and the denial of permission to conduct public processions for black soldiers from other parts of the African continent.The approach used here is that of performance-curation (practice-based artistic research). The envisaged presentation will take on a hybrid form of radio noise, oral poetry and formal academic discourse based on the research findings, in order to provide critical insight into the politics of sound.

At 7pm on Tuesday, 8th of July 1941, the first loudspeaker broadcasts streamed through the mine compounds of Witwatersrand (Johannesburg) gold mines. African mineworkers heading towards their dwellings, passed the gates, where stood a pair of guards; they made their way to the dormitories, along the corridors, which were lined up with makeshift stalls selling tobacco, fruit and meat. Some of the rooms were wide open with wafts of food on the stoves; some were temporarily turned into barbershops and consultation rooms for traditional healers. And somewhere in the middle of the open-space in the centre of the compound a considerable group of men congregated in front of blasting speakers. This was the first night of the loudspeaker broadcasts. They announced the news of the day—at least the news that the authorities felt were important for 'natives' to find out—and became part of the daily audio routine of the compounds.

1For the film-screenings carried out by Rev. Phillips in the Witwatersrand compounds and theatre, see Peterson, Bhekizizwe (2000). *Monarchs, Missionaries and African Intellectuals: African Theatre and the Unmaking of Colonial Marginality*. Johannesburg: Witwatersrand UP.

2As much as the phonograph did the same thing. See Tournes, "The Landscape of Sound in the Nineteenth and Twentieth Centuries", 495.

The loudspeakers did not just simply outshine other noises that filled the environment. Instead they competed and interlocked with the grinding of hammer against iron as some of the men made metallic crafts; the beating of drums as Pedi migrants practiced their dance routines.[3] There was also the murmuring of the three or four who stood around a *mbawula*, fire in an old tin, to chase away the winter chill. Some continued to do the washing they had not managed to do at the weekend, while others cooked their meals. There were those who watched attentively the loudspeaker technology in action—not that sound can really be watched—others drank beer; it all depended on where the compounds were located. Although the dangers of walking at night persisted in the 1940s, miners were not deterred from making the walk to the townships for beer or to visit friends and *mkhayas* (homeboys) in other compounds.[4] The compounds situated close to the townships provided many venues for beer drinking, while those located further away from the townships did not.

The loudspeakers spoke in the languages of Sotho and Xhosa and promised that Zulu could be heard the next day. It was normal to have entertainment in the recreational space in the centre of the cluster of dormitories where mineworkers were housed.[5] But usually these were film screenings and traditional dance competitions, it had never been announcements spoken in the miners own languages, by a set of loudspeakers, which did not reveal the person behind the microphone.

The recreational space which was part of the compound structure was positioned in such a way that it was hard to ignore any recreational activity happening within the compound, [6] especially sound that emanated from there. Although the loudspeakers were a new introduction in African-aimed entertainment, there was a strong precedent in the sports and leisure gatherings arranged by authorities in the Johannesburg mines. The mining industry was one of the major forces in the spread of African sport in Johannesburg in the 1930s and 1940s.[7] Rather than promoting 'urban' sports such as soccer or rugby, the mining industry promoted activities that were seemingly more suitable to a rural-based labour force.[8] These were comprised mainly of traditional dance and music.

Miners were frequently treated to cinema screenings that featured cowboys and wildlife on Wednesday and Saturday nights. There were also informational films like 'Safety First', and comedies like Charlie Chaplin, Mickey Mouse, and specially commissioned shows like the 'Pickaninny's Christmas' and 'From Red Blanket to Civilization'. African miners were selective in what they what they watched, they could outrightly boycott a film by remaining in their rooms if they were not interested. On many occasions they shouted 'Take it off'

3Maloka, Eddy (2004). *Basotho and the Mines: A Social History of Labour Migrancy in Lesotho and South Africa, c1890-1940*. Codesria: Dakar, 124.

4Maloka, *Basotho and the Mines*, 126.

5Maloka, *Basotho and the Mines*, 117.

6"These structures typically consisted of rows of rectangular rooms surrounding a recreational space, all of which was walled-off—aside from a guarded entrance." Badenhorst, Cecile & Mather, Charles (1997). "Tribal Recreation and Recreating Tribalism: Culture, Leisure and Social Control on South Africa's Gold Mines, 1940-1950," *Journal of Southern African Studies*, 23/3, 476.

7Badenhorst & Mather, "Tribal Recreation and Recreating Tribalism," 474.

8Badenhorst & Mather, "Tribal Recreation and Recreating Tribalism," 474.

when an educational feature was not followed by a piece of entertainment. [9] So they could just as easily boycott a broadcast (or talk over it) if they felt disinterested in what was being said. In this effortless appraisal of what they heard, miners held their power. The state therefore needed to tread very carefully in the implementation of the system, to ensure that its own agenda would always be met. But at the same time it needed to be convincing so that African people would pay attention to the broadcasts.

As with dance competitions and sport tournaments, mine authorities enjoyed the prominence of making speeches and giving away prizes, they were, most likely, present on that night.[10] Newspaper reporters were also present, they took photographs, which made news the following day (see Figure 1).

Figure 1: Loudspeaker Service in Johannesburg 1940[11]

The heavy coats worn by the men in the photograph are expected, as Johannesburg can get very cold in July in the evenings. That the newspaper chose not to publish a photograph of the newly installed apparatus but rather chose to show its new audience and to corner the broadcast presenter on the top left of the image. We do know, however, that the audience that night did not get a view of the presenter, who was in the studio. And yet the newspaper felt it imperative to show the presenter in-action and not the intriguing new sound device. Perhaps what the photographer was desperately trying to capture were the kind of stares and bodily expressions that corroborated the curiosity of the loudspeakers' listening audience. The angle of the shot did not directly face the crowd, but

9 Maloka, *Basotho and the Mines*, 136.
10 Maloka, *Basotho and the Mines*, 131.
11 *The Star*, 9th July 1940.

was rather taken from a slight angle, so that we can see the left cheeks of the miners. This gives us the sense of people whose eyes were focussed elsewhere, perhaps towards the speakers ahead. The photograph should therefore be taken as a *way* of seeing the events that unfolded, and not seeing itself. It allows us access to that reality, for which we do not have direct experience.[12] What the photographer tells us is that the booming loudspeakers were more fascinating to the miners than the camera lens at hand. We can only take her/his word for it—we cannot know this for sure.

The Department of Native Affairs later published a circular announcing the decision to broadcast:

The scheme provides for the linking up of every location, compound, mine compound, hostel and other centre where large number of natives congregate on the Reef, by means of land lines, and the broadcasting of authentic news and propaganda daily by telephone and loud-speakers at an appropriate hour from a central broadcasting station in Johannesburg. [13]

As is noted by the Department, the decision to launch the broadcasts in the mine compounds was because of the large number of Africans who could be gathered there. We know that at the peak of mining recruitments in the 1930s there were at least 300 000 men passing through the Witwatersrand Native Labour Association (WNLA) compounds each year.[14] So the loudspeaker system was successful in several fronts: (1) it was fairly easy to install, at a low cost; (2) mineworkers were of course the largest workforce, capturing the mining working class into the listening population could control information to a significant African population in the Witwatersrand area; (3) and finally, the loudspeaker broadcasts could be easily woven into the already existing 'entertainment system' of music-dance competitions, theatre and outdoor film-screenings.[15] Gatherings of this nature were few and far between, given the severe restrictions on Africans assembling in public areas. Miners in the compounds were governed by a vicious hierarchy, with ethnically-divided *indunas* (African supervisors) and a white compound manager as the ultimate authority.[16]

The week before the first broadcast (22 June 1941), Winston Churchill, British Prime Minister, announced that, "Any man or state who fights against 'Nazidom' will have our aid. Any man or state who marches with Hitler is our foe."[17] The announcement sent a chilling fear to the women and men who heard it all over the world. Such a significant broadcast would have been relayed to South Africa as well.[18] It must have been this and similar

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12 On photography see Sontag, Susan (2007). *At the Same Time: Essays and Speeches*. London: Penguin Books, 124-125.

13 "Broadcast to Natives", Department of Native Affairs (1942). TAB NTS .9655/520/400/13(1) and TAB NTS . 9653/520/400(9), National Archives Repository, Pretoria.

14 Badenhorst & Mather, "Tribal Recreation and Recreating Tribalism," 477.

15 For the film-screenings carried out by Rev. Phillips in the Witwatersrand compounds and theatre, see Peterson, Bhekizizwe (2000). *Monarchs, Missionaries and African Intellectuals: African Theatre and the Unmaking of Colonial Marginality*. Johannesburg: Witwatersrand UP.

16 Badenhorst & Mather, "Tribal Recreation and Recreating Tribalism," 476.

17 See *Historic* Newspapers, Accessed 10th October 2016 <http://www.historic-newspapers.co.uk/old-newspapers/1941-newspapers/>

forebodings[19] that prompted Hugh Tracey, the then Studio Manager of the South African Broadcasting Corporation (SABC) in Durban, to launch a similar loudspeaker system in the Natal region. Tracey said he got the idea of the loudspeaker broadcasts to Africans in Natal when he discovered that a rumour was spreading among Africans that every Zulu speaker would earn 10 shillings a day when Hitler arrived.[20] These views were echoed in official records:

Representations from various quarters were made to the Corporation to set aside a portion of each day's programme for the purpose of broadcasting a special war news service to Natives, with the object of counteracting unfounded *rumours*. While fully realizing the importance of the object in view, the Corporation felt than any attempt to reach that object by the means suggested could only be of doubtful value, and therefore suggested another method of achieving the same end.[21] [my emphasis]

The Native Affairs Department raced to connect loudspeakers everywhere in Durban: hostels, beer halls and factories where Africans worked. An amplifier and loudspeaker were also connected at the Native Village in Pietermaritzburg; these were installed by a J H Cliff at a cost of 24 pounds. The superiors considered the price reasonable given the short notice in which it had to be done.[22] A total of 60 areas were wired-up in Durban and a few in Pietermaritzburg. The broadcasts were 30 minutes and divided into three segments: First was the news, then the playing of music, and lastly a special talk of some kind.[23]

The authorities wanted a fluent Zulu-speaker to present the broadcasts. Charles Mpanza was asked to do the job. He was already working under the Chief Native Commissioner, as an officer in the Pietermaritzburg office.[24] But apart from his position in government, Mpanza was also the Secretary of the Zulu Society. An educated African's organization, the Society was largely viewed as a thought-leader in Zulu language matters. Mpanza was often asked to recommend Zulu textbooks for schools, and give advise on Zulu orthography, etc.[25] He could not let the invitation to broadcast pass-by, it promised to strengthen the work and the reputation of the Zulu Society. So he agreed to be an announcer. The appointment was even included in the Society's Auditor's Report, saying one of its achievements was "the privilege to assist in the dissemination of the

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[18] During the war, while the South African Broadcasting Corporation (SABC) would broadcast up to 12 hours of the British Broadcasting Corporation (BBC) content on its stations, the BBC often relied on the SABC for its own war programming, especially in events happening in North Africa, see Briggs, Asa (1970). *The War of Words vol III. The History of Broadcasting in the United Kingdom*. New York: Oxford University Press. Here Briggs notes the return of power to Haile Selassie in May 1941 and the Battle of Mahda Pass as instances in which the BBC relied on SABC reporting. Also see Chapter 6 in Mhlambi, Thokozani N (2015). Early Radio Broadcasting in South Africa: Culture, Modernity & Technology. Phd thesis, University of Cape Town; Van der Veur, Paul R."Broadcasting in South Africa: The politics of Educational Radio" Accessed 10th August http://list.msu.edu/cgi-bin

[19] Such as the return to power of Emperor Haile Selassie of Ethiopia two months before (5 May 1941).

[20] Couzens, Tim (1985). *The new African: a study of the life and work of HIE Dhlomo*. Johannesburg: Ravan Press, 208.

[21] SABC *Annual Report* 1940

[22] "Letter to the Town Clerk," Pietermaritzburg Municipal Native Administration Minutes (1940). 4/4/2/299, Pietermaritzburg Archives Repository.

[23] "Broadcast of Information to Natives", Pietermaritzburg Municipal Native Administration Minutes (1940), 4/4/2/299, Pietermaritzburg Archives Repository.

[24] Papers re. Chief Native Commissioner (1939), A1381, IV/2/2, Pietermaritzburg Archives Repository.

[25] (1939), *Zulu Society Papers*, A1381, Pietermaritzburg Archives Repository.

Departmental News of the War to Zulus through the Radio and the press." [26] He then introduced the name of Herbert I E Dhlomo as one who he could work within the broadcasting scheme. He trusted Dhlomo and knew of his talents in writing and speaking. Dhlomo had just moved back to Durban from Johannesburg where he had been the Library-Organizer at the Carnegie Non-European Library Service.[27] But apart from this, he was a well-known writer of poetry and plays, and increasingly as a cultural critic.[28]

Mpanza sourced the musicians to use on the show and also paid them. He prepared the scripts and arranged for guest speakers. All the scripts and talks given by guest speakers had to be translated into English and given to the Studio Manager of the SABC in Natal to approve beforehand.[29] So although, Mpanza presented the Pietermaritzburg broadcasts and his friend Dhlomo the Durban ones, the Studio Manager (who was Hugh Tracey at the time) was ultimately in charge.

The beer hall on Victoria Street was one of the most popular venues for Africans to gather in the city of Durban in the early 1940s. It was municipal owned and provided a permitted environment for entertainment purposes and the sale of alcohol. The sounds coming out of the loudspeaker provided background accompaniment to those mingling with friends, they were also a reminder of the fact that this was a government controlled environment.[30] The news delivered by government representatives on loudspeakers were thus part of the audio-markers of regulation.

The Victoria Street beer hall was also an *isicathamiya* performace venue. Some of the African middle-classes patronised these venues, as they were more orderly than the illicit entertainment venues in the slums. But Victoria Street beer hall was more than just a recreational centre, it was a gateway to other venues that were less government controlled. The 'real' *isicathimiya* took place at the shebeens in the Samseni area, which were conveniently located by a direct bus line from Victoria Street. Here, people could purchase stronger concoctions of liquor and things other than the low alcohol-content beer sold at the municipal-operated venues.[31] They could also dance for much longer into the night, although this would have to be done quietly so as to not provoke the Indian landlords. It is in this context that *isicathamiya* acquired its delicate gestures and hushed voices that have become the most distinctive features of the musical genre.[32]

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[26]Zulu Society *Auditor's Report*, 1945, A1381, V/1, Pietermaritzburg Archives Repository; see also Mpanza, Charles. "Letter to The Chief Native Commissioner, Natal," 25th June 1945, *Charles Mpanza's Personal Papers*, A1381, VII/4, Pietermaritzburg Archives Repository.

[27]Everts, R Alain (1993). "The Pioneers: Herbert Isaac Ernest Dhlomo and the Development of Library Service to the African in South Africa," *World Libraries*, 3/2, online edition. Accessed 3rd February 2015 http://cybra.p.lodz.pl/Content/1175/vol03no2/everts_v03n2.html

[28]See Couzens, Tim (1985). *The New African: a study of the life and work of HIE Dhlomo*. Johannesburg: Ravan Press; Masilela, Ntongela (2007). *The Cultural Modernity of H.I.E. Dhlomo*. Asmara: Africa World Press Inc.

[29]Hugh Tracey, Letter the Secretary of the Zulu Society, "Broadcast Performances," 6th May 1941, A1381, IV/8, Pietermaritzburg Archives Repository.

[30]Municipal owned beer halls were established in 1938 in order to control the sale of liquour in the cities of South Africa. Maloka, Eddy (2004). *Basotho and the Mines: A Social History of Labour Migrancy in Lesotho and South Africa, c1890-1940*. Codesria: Dakar, 116.

[31]Maloka, *Basotho and the Mines*, 126.

[32]Erlmann, Veit (1991). *African stars: Studies in black South African performance*. Chicago: University of Chicago Press, 83-83; Gunner, Liz (2008). "City textualities: isicathamiya, reciprocities and voices from the streets."

The movements of African men between regulated city spaces and less controlled fringe areas, between urban areas and rural homelands, as they sought to bring to life the realities of migrant existence provided some of the most vexing challenges for white rule in the 1920s to 1940s.[33] Urgent disavowals of war rumour, as those undertaken in the loudspeaker broadcasts, have to be considered in light of the sense of ambivalence many Africans had towards the segregated country and its consequent involvement in the war. Resolutions taken by the ANC, the Transvaal Non-European People's Conference and similar organizations emphasized that Africans should not take part only as labourers, but that they too should be armed in battle. The ANC noted that, "the territorial integrity of the Union of South Africa can only be effectively defended if all sections of the population were included in the Defence System of the country on equal terms."[34]

Some Africans who supported the war held millenarian visions of a better future, through a possible German or Japanese victory.[35] Tracey's rumour seems to fit to this view; however this was only a segment of the African population, it did not reflect the sentiments of everyone. Others like Z K Matthews were of the opinion that history "has taught them that to support one European group against another brings upon them the enmity of the group to which they were disloyal without earning them the friendship of the group to which they were loyal." It did not matter who won, as Hitler would probably treat them no worse than how the whites in the country were treating them.[36]This attitude of indifference was the most prevalent. Perhaps concealed under the authorities apparent concern over rumour were fears over this attitude of indifference. It had the potential to undermine South Africa's war plan.

Whatever ideas were disseminating about the war in African social life, the authorities refused to entertain them and their implications. Rumour was to be "counteracted", as quoted in the *Annual Report* above. The fact that rumour was viewed as something to be merely "counteracted" (than say 'understood' or 'investigated') is suggestive. For some African leaders inclusion in the military squad would confirm their claims to full citizenship, government was very aware of this. The real problem of rumour is that it does not care about the 'accepted' structures for the flow of information. But instead of responding to officialdom, it moves and takes a life of its own.[37] In his study of rumour and popular political opinion in the 17th century England, Adam Fox finds that, although most people could not read at the time, there was a relationship between the oral information that spread nationwide and printed media. In fact, some of those conversations revealed a sophisticated awareness of current affairs. This suggests that even common people in England participated in the debates that anticipated the English Civil War.[38] Similarly, in South Africa, the stories spreading in the beer-halls during the Second World War were not

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Social Dynamics, 34/2, 156-173.

[33]This is precisely the argument in Couzens, Tim (1985). *The new African: a study of the life and work of HIE Dhlomo*, "Chapter Three: 'Moralizing Leisure Time': The Transatlantic Connection and Black Johannesburg (1918-1936)." Johannesburg: Ravan Press; See also Erlmann, Veit (1989). " 'Horses in the Race Course': The Domestication of Ingoma Dancing in South Africa, 1929-39." *Popular Music*, 8/3, 259-273.

[34]"Resolutions Passed at the Annual Conference of the ANC," 15th-18th December 1939, cited in Grundlingh, L W F (1986). *The Participation of South African Blacks in the Second World War*. Phd thesis, Rand Afrikaans University, 11.

[35]Grundlingh, *The Participation of South African Blacks*, 12.

[36]Grundlingh, *The Participation of South African Blacks*, 14, 17.

[37]Morin, E (1971). *Rumour in New Orleans*. New York: Pantheon, 12, 18.

necessarily false, but were related to the information circulating in print media. In this case, the people's curiosity in the war affairs is something that is driven by government urgency and stimulated in media reporting. It is the same curiosity that launches the rumour.

The outcome of the government's tiptoeing around race was a ludicrous situation where Africans were used for certain war duties, in order to free whites for actual combat. But now because African soldiers were not allowed to carry firearms, white soldiers had to be used to protect black soldiers. The exercise was self-defeating. The segregated state had a lingering fear of Africans; of possible insurrecting at the end of the Second World War, with the possibility of civil war.

It was not just any kind of fear; it was a technophobia, the fear that the war might expose Africans to new ideas:

> 8) That the African man might discover himself the military equal of the white man.
> 9) According to the Job Reservation Act of 1924, the 'advanced' employment market (of which broadcasting was considered a part of) was restricted to the white minority only.[39] This exhibited the fear that African man might discover himself the scientific equal of the white man.

This technophobia was accompanied with the suppression of information on the success of the military units from other African countries (such as the King's African Rifles, which incorporated soldiers from East and West African British territories), motivated by the "fear that public recognition of the part played by African troops might give material for political criticism here in the Union, or might perhaps seem to detract from the glory of the white South African troops."[40] Rumour then was not to be rejected outright, or falsified, but was to be suffused by an oversupply of official information, of which the loudspeaker service became an important channel.

In 1940, the Director of the Non-European Army services refused to send the assistance of a band to recruitment troops for Africans in Northern Transvaal. He felt that the means of recruiting Africans ought to be "unostentatious".[41] So sound was suppressed out of fear. Although sound was used to attract attention in the case of Afrikaner recruitment rituals,[42] sound could also be controlled to detract attention in the recruitment of African troops. It shows how sound and ritual cooperated to order social reality (i.e. of racial superiority) as well as to command national loyalty (i.e. by instructing people to enlist in the army). This is an important illustration of the significance of the sonic dimension in configuring exclusion. "Sound is suited to the task of establishing presence," we are told by Carolyn Birdsall in her study of German Nazi soundscapes, it "can appear in the auditory imagination, even if

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38Fox, Adam (1997). "Rumour, News and Popular Poltical Opinion in Elizabethan and early Stuart England." *The Historical Journal*, 40, 597-620.

39Khumalo, Vusumuzi (1996). King Edward Masinga: The first black radio announcer. B A Honours thesis, University of Zululand, 6

40Alfred Hoernle cited in Grundlingh, *The Participation of South African Blacks*, 20.

41Grundlingh, *The Participation of South African Blacks*, 19.

42Grundlingh, Albert (1999). "The King's Afrikaners? Enlistment and Ethnic Identity in the Union of South Africa's Defence Force during the Second World War, 1939–45." *The Journal of African History*, 40/3, 355.

their source cannot be seen."[43] However, it can also eliminate presence, for those who must be seen but should not be heard. 76 000 African men, mostly from the Northern Transvaal, enlisted in the Defence Force during the Second World War. Foreign African troops were prevented from staging public processions in the country, just in case their parades discouraged local Africans from fighting without weapons. In cases where the rhythms of warfare in North Africa proved impossible to overcome with colour-bar policies, Africans *were* given rifles. This was however kept from public knowledge.[44]

So while the state was embarking on a campaign to have loudspeakers connected for Africans to listen, another effort was also underway to de-signify the presence of African soldiers in the war. The spatial process of increasing state pronouncement by installing loudspeakers in visible public areas, earmarked sound as a disciplinary practice of control. It obviously heightened the aural and spatial awareness of the state and its own imperative. But the sonic dimension of the loudspeaker system was transgressive, for it could be heard in the soundscape even when the source could not be seen. Because sound blasts whether you want to listen or not, it insists on its presence in the auditory imagination, as people walked by coming from work, or sat for a quick drink with friends they would unavoidably hear what was being said. In this sense the success of the loudspeaker broadcasting system drew on both visual presence and acoustic strategies.

Durban was the most logical step in the implementation of the loudspeaker broadcast after Johannesburg.[45] Apart from the fact that it had a significantly sized African urban population, it had also witnessed a lot of militant responses to domination. Dockworkers, rickshaw pullers, industrial/commercial workers, waiters, motorcar drivers—these were the professions that comprised the majority of the African working population in the city.[46] And would have most likely been the target group of listeners. The South African state wanted to avoid unplanned outbreaks of sound (whether those produced by rumour, by public protests or random crowd behaviour) that it did not control. Its aim was to silence, even as it made its own noise.

The desire to create mass listening events went hand-in-hand with the state's aim to transform itself into an acceptable political structure with wider appeal. Technology needed to bulldoze its way into people's lives. But for it to achieve its effect it needed to recall some of the crowd gathering and commemorative forms from a bygone era; a bit of ritual, a bit of *izibongo* (praise-poetry), whatever would win the day, to secure its place in the minds of people. "Thanks to the war, the SABC has discovered the African listeners," said Herbert Dhlomo in 1945.[47]

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43 Birdsall, Carolyn (2012). *Nazi Soundscapes: Sound, Technology and Urban Space in Germany, 1933-1945*. Amsterdam: Amsterdam University Press, 36.

44 Grundlingh, *The Participation of South African Blacks*, 'Summary', 27,29.

45 Herbert Dhlomo described the city as that place "where one can bring the country to the city and the city to the country," having spent some time away in Johannesburg and seen the conditions of overcrowding, drunkenness and urban decay there. 'X' [H.I.E. Dhlomo], "On Durban," *Ilanga*, 22nd February 1947

46 La Hausse de Lalouviere, Paul (2000). *Restless Identities: Signatures of Nationalism, Zulu Ethnicity, and History in the Lives of Petros Lamula (c. 1881-1948) and Lymon Maling (1889-c. 1936)*. Durban: University of KwaZulu-Natal Press, 114. These labourers were the fertile constituents of political mobilization (as seen in the activities of the ICU and Natal African Congress in the late 1920s).

47 "Busy Bee", *Ilanga* 16th June 1945

Revival of Old Commemorative Forms

In the middle of the 19th century, new worldviews against colonialism placed pressure on colonial governments to find alternative ways of administering power without direct force (but still capable of serving the colonial project). Theophilus Shepstone, the British colonial administrator, chose to resolve the challenge by finding African indigenous models of domination. In the by then deceased Zulu king, Shaka kaSenzangakhona, he found a model of central control that circumvented some of the more liberal demands of British constitutional government.[48] The strategies paid rigorous attention to detail, so that they would work and convince as colonial modes of governance. They were also imaginative and included the acting out of the role of Shaka in public ceremony, with Shepstone himself as Shaka. And conveying certain modes of public address, including heralding, izibongo, that called the society to attention: People were called forth to assemble. And then later "The majority of assembled people dispersed back to their homes."[49] Processions were made with Shepstone at the head, "followed by the brass band, the two field pieces, and the column of mounted Volunteers."[50] Even the voice was exploited for its capacities. He would address in fluent Zulu, "pausing throughout to obtain vocal assent" in the instructions he was giving.[51] In all this performance colonial native administration was being crafted and endorsed at the same time.

In the loudspeaker broadcasting, a desperate resuscitation of the commemorative forms as exhibited in Shepstone in the 19th century took place. Considering that up until this time most African listening 'entertainment' was restricted to the church and private spaces within the urban environment,[52] the streets were thus awakened to a political and revolutionary potential. Revolutionary in the sense that it had the potential to diversify the range of music the people listened to, for example. As well as in the sense that it could trigger a response on a particular world event in a fairly short time.

Mpanza spoke once of the visit to Zululand by Major van der Byl, the then Minister of Native Affairs. He reported on the occasion using the already established oral forms of

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[48] Hamilton, Carolyn (1998). *Terrific Majesty*. Cambridge & London: Harvard U P, 93.

[49] Hamilton, *Terrific Majesty,* 76.

[50] Hamilton, *Terrific Majesty,* 78.

[51] Hamilton, *Terrific Majesty,* 78.

[52] Africans, for example, were restricted in the kinds of gatherings they could have. In the 1920s, as city officialls enforced strict restrictions on natives and the City hall (and other public premises), the church hall and school room were transformed into vibrant music performance centres. They became distinct public spaces in the cultural geography of Africans in the city. Petros Lamula, a pastor of the Norwegian Missionary Society, developed a reputation among Durban's movers-and-shakers due to his promotion of musical concerts at his inner-city church in the 1910s and 1920s. Cultural anxieties and racial tensions were so rife that he was, like other black clergy, "at pains to distance himself from gambling, sheebeens, *ingoma*" and other activities viewed as 'dangerous' by city officials and the police. La Hausse de Lalouviere, Paul (2000). *Restless Identities: Signatures of Nationalism, Zulu Ethnicity, and History in the Lives of Petros Lamula (c. 1881-1948) and Lymon Maling (1889-c. 1936).* Durban: University of KwaZulu-Natal Press, 48-49,52 & 143-144.

In addition, under the Slums Act (1934) people could be removed for whatever reasons, including for re-zoning from residential to industrial area, to upgrade area before re-accomodating. In the most extreme cases, settlements could be demolished even prior to municipal authorities establishing what the land was going to be used for. Beavon, Keith (2004). *Johannesburg: The Making and Shaping of the City.* Pretoria: UNISA University Press, 96; See also Parnell, Susan (1988). "Racial Segregation in Johannesburg: The Slums Act, 1934-1939," *South African Geographical Journal*, 70/2, 112-126;

izibongo praise poetry. At first, Mpanza explained the occasion in plain speech and said that all the important dignitaries in Nongoma were present for the momentous occasion. Then he reported how the Zulu *izimbongi* (praise poets) suddenly appeared on the scene and they praised the Minister. The tone of Mpanza's voice then ascended as he started to perform the praises that were supposedly rendered. He spoke with excitement as if he was there right then, but he was not—he was now in the studio. The excitement in his voice suggests that the theatrical intrusion that formed part of his news report was just as important as the facts themselves. He paused for a while, only to break away into the praises again, that were then left to linger in the air, for the audiences to absorb.[53] It is not easy to distinguish between fiction and truth in the report, given that entertainment and factual reporting were combined. The SABC would later put the commemorative form into its broadcasting guideline.

In 1942, the Head of Bantu broadcasting services, C D Fuchs, wrote a letter to the Controller of Programmes at the SABC, where he encouraged the use of 'indigenized' modes of address. "As a gem is an ornament among Europeans," he wrote, "so praises are among Abantu and have been from time immemorial." [54] Fuchs then gave as an example how Field Marshall Smuts could be praised:

Field Marshall Smuts, the Hero of our Country,
Thunder that thundered from the Union of South Africa to Kenya,
Thence to Abyssinia, on to Eritrea,
Yea onward still, to distant Libya,
And was even heard by birds beyond
Heard reverberating over the sea named Mediterranean.[55]

What Fuchs omitted to share in his letter was the origin of his praise-poem example. A year before Fuchs' letter, Mpanza received a note from the office of Field Marshall Smuts conveying "his appreciation of the eulogy of him, composed by yourself."[56] The letter arrived a year before Fuchs' instruction, so the example could have been taken from Mpanza's rendition. If that was the case, why did Fuchs not credit Mpanza in the letter? It is ironic that a praise-poem proclaiming 'insider' knowledge on the languages and habits of Africans would be written in English. This may suggest that the audience to whom the letter was addressed could be better communicated to in English. Therefore it is a reminder of the authority of the state, encapsulated in the Studio Manager, who had to oversee all items to be broadcasted beforehand for his approval. It is to this authority that the letter is addressed. In its inability to express in the African language the very idea it seeks to illustrate, Fuchs' instruction betrays its own credibility. But perhaps Fuchs was rushing to do something else. He wanted to present the poem as if it were written by himself, a device which would allow him to surreptitiously enjoy speech otherwise foreclosed to him as a person in the confines of white administrative authority: that is

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[53]"Izibongo Praises," South African Music Archive Project, mus1943-12-20.036.018.AC0004-234A1 Accessed 3rd February 2015 <www.disa.ukzn.ac.za/samap/content/izibongo-praises-southern-african>

[54]C D Fuchs, Letter to Miss Dickson (SABC Controller of Programmes), 2nd December 1942, TAB NTS . 9655/520/400/13(1), National Archives Repository, Pretoria.

[55]C D Fuchs, Letter to Miss Dickson (SABC Controller of Programmes), 2nd December 1942, TAB NTS . 9655/520/400/13(1), National Archives Repository, Pretoria.

[56]Department of Native Affairs Pretoria, Letter to officer Chief Native Commissioner, 30th July 1941, A1381, IV/2/2, Pietermaritzburg Archives Repository.

speech with the power to decree, in the language reminiscent of a different time, perhaps of monarchs and rulers, of "time immemorial," in his own words. Presenting the praise-poem as if it were written by himself provides Fuchs with a platform to demonstrate his authority on Bantu matters in terms that are not his own, in a manner that is otherwise unsayable within the confines of 20th century administrative speech, with its calcified language of facts and figures.

There are numerous examples of eulogies of white state leaders that Mpanza had to compose and perform on radio.[57] We cannot say for sure if Mpanza was forced to write these eulogies, but Smuts' appreciation suggests that those in power loved his praise-poems. They validated their authority, and perhaps their intentions for involving Mpanza and the Zulu Society in the broadcasts. In their relationship with the state in the loudspeaker broadcasts, African's found themselves in a tricky position. The co-opting of the Zulu Society in the loudspeaker broadcasts can be viewed as one of the most successful attempts at obtaining approval of the broadcasts from influential sections of African society in Natal. Dhlomo was unhappy about this collaboration, accusing the Society for having "delivered itself to the Native Affairs Department in Maritzburg for a paltry grant of 250 pounds a year," he felt that it risked complicity.[58]

Towards An Alternative Genealogy of Listening

Notwithstanding the challenges of co-option that were experienced by the educated Africans, the loudspeaker broadcasts had a deeper impact of reshaping of African publicities at the time. Apart from rapid urbanization and the transformation of state apparatus, the early 20th century saw the culmination of a growing African intellectual sensibility in South Africa. This was achieved through the establishing of print media (newspapers, journals and books),[59] opportunities for education and gaps in agricultural and property-owning economies.[60] Accompanying this sensibility was a flourishing of

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57Such as the one of Major van der Beyl's visit to Nongoma in the then Zululand district. See *South African Music Archive Project*, "Unaccompanied praise To Mr van der Byl (Minister of Native Affairs). Further details refer ILAM record number AC0004," Accessed 10th October 2016 <http://samap.ukzn.ac.za/audio-people/mpanzacharles>.

58Couzens, *The New African*, 293.

59Early African independently owned newspapers in South Africa include: *Imvo Zabantsundu* (1884), *Izwi la Bantu* (1897), *Ilanga lase Natal* (1903).

Black-authored books emerging at the time: Plaatje, Sol T (1916). *Native life in South Africa*. PS King & Son; Fuze, Magema (1922). *Abantu abamnyana: lapa bavela ngakona*. Pietermaritzburg: City Print Works; Dube, John (1930). *Insila kaShaka*. Durban: Marianhill Mission Press.

60Opportunities in education were opened up by the initiatives of people like Dube himself. Dube toured the United State's Southern region in 1887. Whilst there he encountered the black self-reliance work of Booker T Washington and his Agricultural-industrial College. Upon returning to South Africa, Dube went on to start his own agricultural-industrial school in Inanda, outside of Durban in 1901, called Ohlange. See Couzens, *The New African*, 86.

After the gold rush in Johannesburg and subsequently the building of a railway line joining the Durban port with the interior in the last decades of the 19th century, there was a boom in agriculture. In Natal, there were a number of land-owning African families, of the educated, Christian convert background, who were well positioned to benefit from the boom. The Luthuli, Kambule, Dube and the Msimang families were part of a tiny group of African wealthy landowners in Natal by the turn of the 20th century. Simeon Kambule, for instance, is believed to have owned 796 acres of land in 1917. Marks, Shula (1986). *The Ambiguities of Dependence in South Africa: class, nationalism, and the state in twentieth-century Natal*. Baltimore: Johns Hopkins UP, 38, 48.

creative productions, such as the publishing of the first drama written in Zulu, *UGubudule Namazimuzimu* by N N T Ndebele[61] and the publishing of the Zulu-English dictionary by B W Vilakazi and Clement Doke,[62] as well as increasing secular public political/social engagement in for example the Bantu Social Centres in Johannesburg and Durban. The loudspeaker broadcasts in Zulu took place against a backdrop of a growing modern sensibility to being Zulu, which was spearheaded by the educated African in Natal and Johannesburg. As a result, African broadcasts, in Natal, had to be framed within an existing discourse of a coherent Zulu public.

  A subsequent broadcast announcer, Masinga described the loudspeaker broadcast system as "the newspaper for the illiterate".[63] Unlike newspapers, books and other forms of information, broadcasting did not demand a literate audience. Broadcasting enlarged the circulation of information done by newspapers, which were for those who could read. It precipitated this work by bringing news faster, and to a wider audience of educated and uneducated. Simply in a way that newspapers, as a reading culture, could not. As a result, loudspeaker broadcasting tampered with a particular 'symbolic currency' held by educated Africans, which decidedly belonged to the paradigm of the written. Dhlomo, for example, complained that fees African popular musicians could demand, as result of increased coverage from broadcasting, would "exceed what an African author of a book cannot get even four years after publication".[64] Cultural critic, Walter Nhlapo, bemoaned the absence of the "heavier art" in broadcasting, he also attacked openly attacked Tracey for thinking that Africans cannot "appreciate the refinements of European art."[65] The advent of broadcasts in Zulu began eroding this symbolic currency held by educated Africans, who were well versed in reading and in reading in the English language for that matter. The fact that Nhlapo's critical piece is published in a white English newspaper is telling.

Media that could not differentiate African populations was frustrating to the middle-class sensibilities, that educated African intellectuals strove for. The loudspeaker system was framed in the public environment. The sonic event as it were could not be ignored. African middle-classes therefore required a different approach, and part of that was to dismiss the service, by soliciting of sympathy in the English literary press. Unlike jazz swing records,[66] which were not played on the broadcasts and were acquired through the means of a gramophone, they required one to buy and own a record in order to listen; they deployed a notion of "sonic space as private property" so to speak.[67] Broadcasting, on the other hand,

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        61Ndebele, N N T (1941). *UGubudele namazimuzimu*. Bantu Treasury no 6. Johannesburg: Witwatersrand University Press.

        62Vilakazi, BW & Doke, Clement (1948). *Zulu-English Dictionary*. Johannesburg: Witwatersrand University Press
        63Interview at his home in Umlazi in Couzens, *The New African*.

        64"Busy Bee", Ilanga, 15th July 1944. See also Ballantine, Christopher (2012). *Marabi Nights: Jazz,'race'and Society in Early Apartheid South African*. Durban: University of KwaZulu-Natal Press, especially chapter 'Music and Emancipation'. The stifling of literature is also attributable to rising censorship, which turned the literary field into a school textbook publication industry.

        65"SABC Bantu Broadcasts", *Umlindi* 4th August 1945; *The Star*, 25th September 1947;
        Nhlapho was at this point a very respected cultural critic and astute reader of Dhlomo, see Masilela, *The Cultural Modernity of H I E Dhlomo*, 51 & 177.

        66Kuper, *et al. Preliminary Report on Broadcasting for Africans in the Transvaal* (South African Institute of Race Relations), 1st April 1943, AD 843/RJ, Wits Historical Papers, Johannesburg.
        67Sterne, *The Audible Past*.

begun as open-air transmissions on loudspeakers, in public spaces. It therefore beheld a different relation of the sonic space, as public property.

In this sense, Dhlomo understood broadcasting as an extension of traditional forms.[68] In an essay titled 'Inkomo in Zulu life', Dhlomo uses the *inkomo* (a cow), an object and symbol in traditional Zulu life as a basis of investigating the logic of traditional society, and how that may be useful in postcolonial life. He suggests that the "tribal Zulu" are deeply attached to the *inkomo* and would almost lay down their life for it. He outlines a series of significations of *inkomo* into seven broad categories, namely: (1) utilitarian aspects; (2) economical side; (3) military connections; (4) political influence; (5) social life; (6) religion, ritual and medicine; (7) miscellaneous. He argues that "tribal life and economy must be shattered once for all and the people brought within the ambit of modern life as sound, progressive, economically self-sufficient peasants, on the one hand, and, on the other, as full-fledged, urban-dwelling, organized workers of all grades, in all industries." This argument is largely fitting with his modernization stance, which he believed that apartheid would try to erase in its re-tribalization and separate development attempts. But at the same time Dhlomo also asked: "Is the past a dead seed that must be trampled under and never again live, but forever remain dust: or is it alive, ready to germinate and flower into a radiant and glorious future?" These are the questions Dhlomo felt Africans ought to be grappling with.

For our purpose, it is to the utilitarian aspects of *inkomo* we must now turn our attention towards. The first, that "The horns were used as loudspeakers to summon the people to the tribal assemblies or to carry one's voice across hill and vale". The second, that "Many are the uses of the skin of the *inkomo*…there is the drum. It should be remembered that the drum played no small role in tribal life, as it was used as a kind of radio to broadcast news and secret codes besides being a musical instrument." In both these instances, Dhlomo seems to be giving early elaborations of listening culture before broadcasting. By bringing these to bear in so systematic an essay, he is invariably providing an observable genealogy of broadcasting outside of the Western encounter.

Interestingly, Marshall McLuhan writing a few years later than Dhlomo (in 1964) would make a similar observation: "For Africa, India, China and even Russia, radio is a profound archaic force, a time bond with most ancient past and long-forgotten experience." An experience that is confounding in literate societies precisely because of its collective engagement. Literacy over a prolonged period fosters a kind of individualism.[69] Goethe for instance recalls how with the beginning of compulsory schooling in Germany in the 19th century, children learnt to read "silently to one's self".[70] In this process, the letters that educated people read stood in and of themselves without sound. "To understand such effects, it is necessary to see literacy as typographic technology, applied not only to the rationalizing of entire procedures of production and marketing, but to law and education and city planning, as well."[71]

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[68]'Inkomo in Zulu Life', *Ilanga* 6th December 1947; continued 'Inkomo in Zulu life, *Ilanga* 13th December 1947

[69]McLuhan, Marshall (1964). *Understanding Media: The Extensions of Man.* New York: McGraw-Hill, 301, Scholars have critiqued McLuhan in this formulation, as a kind of othering of sound as 'primitive' and sight as 'modern. See Sterne, Jonathan (2012). "Sonic Imaginations" in *The Sound Studies Reader*. London & New York: Routledge, kindle edition. Nonetheless, since Dhlomo makes a similar remark, his ideas are worth exploring.

[70]Cited in Kittler, Frederich (1986). *Grammophone, Film, Typewriter*. Standford, California: Standford U P, 8.

[71]McLuhan, *Understanding Media*, 300.

McLuhan believed that nonvisual/preliterate cultures in Europe and Africa were better able to grasp the medium of radio than their literate counterparts. Initially in South Africa, official science and government (similarly to governments in other parts of the world) saw the value of radio purely in naval and scientific terms. Even though transmission technology had existed for a while, it took a long time for people to awaken to its entertainment/listening potential. And when they did it was through the efforts of wireless amateurs and techno-junkies in the 1910s, 1920s, and not from officialdom.[72]Broadcasting, McLuhan continues, "affects most people intimately, person-to-person, offering a world of unspoken communication between writer-speaker and listener. That is the immediate aspect of radio." In its chattier forms, it shrinks the world to village size, and creates "insatiable village tastes for gossip, rumour, and personal malice". But in doing so it does not necessarily homogenize people, instead, it promotes plurality. In the realm of language, for instance, "Ireland, Scotland, and Wales have undergone resurgence of their ancient tongues since the coming of radio, and the Israeli present an even more extreme instance of linguistic revival."[73]

Walter Ong, a student of McLuhan extends on his ideas as follows: He argues that before the invention and standardization of writing, humans were more oral-aural in their perception of the world than afterward, "not merely in that his words are all spoken and heard words, never visually perceived words on a surface, but in that his whole response to actuality is thereby organized differently from that of typographic man. Writing, and most particularly the alphabet, shifts the balance of the senses away from the aural to the visual, favouring a new kind of personality structure, and alphabetic typography strengthens this shift." The visualist orientation was also fitting to the growing interests in maps, and its outcome of physical exploration of the globe ("dependent on visual control of space in maps and imagination"), which established the modern age.[74]

Given the Judeo-Christian foundations of his argument, Ong's ideas have been severely criticised within the Western canon on the grounds of the supposed death of every form of unifying teleological interpretation of the world.[75] For the purposes of this paper, I will not go further on this argument. It suffices to say that McLuhan-Ong's argument: that broadcasting aural orientations of being in the world in a way akin to those found in traditional societies is remarkably similar to Dhlomo's findings based on Zulu traditional culture.

With this in mind, broadcasting was not in fact a new thing for African listeners but rather a progressive development of old technologies related to *inkomo*. Broadcasting technology then was contributing to the transformation of Zulu culture rather than eroding it, as a result it belonged very much to them just as much as it did to Marconi. This is the underlying argument Dhlomo seems to be making. It stands in contradistinction to Sterne's argument about the stethoscope. Starting with the medical device, Sterne tracks a scientific genealogy of listening, as a category of knowledge. When French physician

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72See Chapter 2 and 3 in Mhlambi, Thokozani N (2015). Early Radio Broadcasting in South Africa: Culture, Modernity & Technology. Phd thesis, University of Cape Town.

73McLuhan, *Understanding Media*, 306.

74Ong, Walter (1967). *The Presence of the Word*. New Haven & London: Yale Press, 8-9.

75Schmidt, Leigh (2000). *Hearing Things: Religion, Illusion and the American Enlightenment*. Cambridge, Massachusetts: Harvard UP.

Rene-Theophile-Hyacinthe Laennec invented the stethoscope, he published an entire treatise explaining the act of listening to the body of a patient in 1819. The treatise's aim was to teach doctors how to listen but also how to think about the act of listening to patients. The stethoscope went on to become the single most influential medical invention of the 19th century. Listening therefore played a tremendous role in the creation of a new medical epistemology. By the time the pre-occupation with listening entered the field of broadcasting it was not necessarily a new thing, it emerged with its own sense of "intuitive knowledge" about how to listen and how to think about listening.[76]

He argues that techniques of listening that became widespread with the diffusion of the telephone, the phonograph, and the radio early in the 20th century were themselves transposed and elaborated from techniques of listening developed elsewhere in middle-class cultures over the course of the nineteenth century. Important about this practice, as Sterne tells us, is the emergence of a skilled practice of listening to specific sounds and ignoring others. The success of the instrument was that it drew on auditory attention for medical diagnosis. It transformed diagnosis from a procedure based on the patient's account of their sickness, towards an empirically verifiable classification of disease:

Listening moved away from an incidental modality of intersubjective communication to a privileged technique of empirical examination. It offered a way of constructing knowledge of patients independent of patients' knowledge of themselves. The truth of a patient's body became audible to the listener on the other end of the stethoscope.

The development of the stethoscope and instructions for its use involved the organizing of space (inside the body, in middle-class homes) in Europe and thus helped create and frame sonic events. Sounds were then grouped into 'interior' sounds (deemed as important) and 'exterior' sounds which were to be ignored.[77] It is in the sense of listening as a category of knowledge that Dhlomo's elaboration becomes useful. If the stethoscope, and subsequent inventions of telegraphy and radio are instances tracking the genealogy of listening in the Western sense, then it is the *inkomo* horn and drum that marks instances of listening in the African Zulu sense.

It has been easy to view even biological forms of knowing as primarily Western in their genealogy, to the undermining of bodies from Africa and elsewhere in the globe. South Africa's wartime soundscape, was not of emergency sirens and bomb explosions, but of public announcements and radio crackle—these really exhibited the usefulness of loudspeakers. But the loudspeakers were also empowering in the sensorial dimensions of African bodies, whose listening orientations were affirmed in that moment.

The focus on commemorative forms that state officials tried to enforce could only be stylistic and superficial in nature, and as a consequence, it missed the boat. The real innovation was in the extension of the iterations of listening, that Africans were well attuned to, which is really what made the medium attractive to African audiences. The entrance of loudspeaker broadcasting may have declared 'hush!' to the rumour mongering, and conversations that were happening in African social spaces, but it also did so much more.

76An argument made very clear by Sterne in *The Audible Past*, 89-101.

77Sterne, *The Audible Past*, 128.

37. Shadows In The Field Recording

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Abstract. This paper considers how an ethnographic mentality applied to field recording might benefit the recordist-composer. Many practitioners in the art of field recording are currently experiencing an 'ethnographic turn'. Recent sonic arts discourse has engaged with the artistic practice of field recording, calling for scholars and practitioners to acknowledge the presence of the recordist as an active agent in the field (Anderson and Rennie 2016; Voeglin 2014; Lane & Carlyle 2013; Demers 2009). This recognition carries with it a heightened sense of awareness and responsibility on behalf of the recordist. As in ethnography, those undertaking field recording are now encouraged to be increasingly reflexive. Meanwhile, in the conceptual 'border zones' between art and anthropology, Schneider and Wright (2010, 2013) write that supposed divisions between the two practices actually mask much common ground. Recent sound works located between arts practice and anthropology are shown to reveal the process of fieldwork through field recording (Karel, Cox and Carlyle) and the emotional response of the recordist (Bennett). *Carioca Sound Stories* presents practice-based artistic research in sound undertaken by the author in Rio De Janiero, Brazil. The work develops this interdisciplinary method further, combining reflexive field recording and 'context-based composition' (Truax, 2012). Gregory Barz's ethnomusicological fieldwork methodology is key to the work, in which Barz describes field research to be 'one of the most meaningful processes engaged by ethnomusicologists to define themselves' (2008: 206). *Carioca Sound Stories* translates Barz's concept of 'headnotes' into visual annotations, whereby the piece simultaneously conveys experiences in the moment and reflections gained with hindsight. This practice-based research in composition aims to develop understanding of field recording as reflexive-ethnographic fieldwork, making clear the active agency anyone has when interacting with or documenting an identified field.

1 Introduction

> To achieve a more active criticality, the very roles an artist plays in working with place, and the assumption that site-specific practice will eventually expose the truth rather than pursue its availability, should be understood rather as opportunities for inhabiting the very problematic such assumptions produce. (LaBelle, 2006: 199)

Rio de Janeiro, 2014. "*We're in Pedra do Sal. This is the* real *samba party: away from the ticketed, paid-in clubs of Lapa, a regular event happens here every Monday and Friday. We're in the open air, around a rock found at the centre of an old workers neighbourhood near the port. People snake up and down a set of steps cut into the rock. There's a palm tree in the middle of the square at the foot of the steps, stalls selling fried food and beer, and I'm in heaven…*

The musicians sit around a table near the tree playing well-known samba tunes. Everyone seems young, it feels alive, contemporary, not simply a retrospective or nostalgic trip. The younger generation, I think, have assumed the responsibility of keeping samba alive – it's

young people that are playing the music, and young people that are listening and singing along to every word.

Later, we make our way into the crowd, pushing through the tight gathering of people, climbing up the steps that are cut into the rock so that we can get to our friend's house overlooking the samba party. We get invited inside, there are people hanging out, I'm offered a cocktail. I begin to realise that being indoors is not missing out on the party outside, but it's offering me a deeper, insider's connection with the place and the people. I'm learning through talking to people in here, perhaps more than I was by just experiencing the music. Certainly, the combination of the two is a greater thing.

Then I have another drink, and then another … and our hosts put a Jorge Ben album on the record deck…"

1.1 Cataloging Memory and Experience

The above is taken from my voice-over to a composed radio work titled *Rio: An Outsider, Inside*, made for *ResonanceFM* in June 2014[1]. The hour-long programme reflects on an extended period that I spent in Rio de Janeiro earlier that year. Through the radio work I voice personal reflections evoked by listening back to the field recordings I had made, and the music I had discovered while in Rio. The voice-over to the radio show was recorded without a script and in one take. As such, it perhaps captured a personal sense of the emotions that I now associated with the field recordings and songs. These sounds had archived my individual emotional data. Sound and music became the equivalent of a diary or field notes, aiding my ability to recall what happened and how I felt when, for example, I was at Pedra do Sal, or being introduced to the music of Jorge Ben.

This could be considered a demonstration of Matthew Stokes's assertion that music (and to which I would add 'sound') becomes a tool for cataloguing memory and experience. He writes that 'the musical event, from collective dances to the act of putting a cassette or CD into a machine, evokes and organises collective memories and present experiences of place with an intensity, power and simplicity unmatched by any other social activity' (1994: 3). From these departure points a question has formed: how might 'context-based' compositions be informed by an ethnographic methodology for field recording?

Beginning in the field, an 'ethnographic conceptualism' (Schneider and Wright, 2013) might be followed through field recording, as it is in other anthropologically informed art. The authors write that this 'does not mean that ethnography becomes unimportant, or negligible, but the initial theoretical motivations arise from a different plane' (p. 18). An artistically-motivated approach to sound in the field might begin to answer the same authors' call for 'experimentation that would result in new and dynamic directions for both contemporary art practices that revolve around various kinds of documentation, and to enlarge the range of work being produced within anthropology' (2010: 3). This paper discusses the merits of one such approach to fieldwork centred on field recording, applied to produce *Carioca Sound Stories*. Here, 'fieldwork' is understood to be an artistic-

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[1]https://soundcloud.com/tullisrennie/rio-an-outsider-inside-originally-broadcast-on-resonance-fm-fri-27th-june-2014

ethnographic practice that includes observation, documentation, interaction and participation with an identified 'field' - achieved primarily through listening and sound recording.

To begin, precedents in sonic ethnography and methodological similarities with field recording as an artistic endeavor are briefly surveyed. A growing call within anthropology for experimental research and presentation methods (Schneider and Wright) is contrasted with a growing sense of self-awareness within the artistic practice of field recording (Demers, Lane and Carlyle, Voeglin). Fieldwork method in ethnomusicology (Barz, Titon) and the importance of emotionally engaged field notes in social sciences more generally (Borg, Browne) are presented. Crossovers between sound arts practice and anthropology are considered, particularly the work of Steve Feld and Ernst Karel. 'Annotated' sound art works that reveal the process of fieldwork through field recording (Cox and Carlyle) and the emotional response of the recordist (Bennett) are discussed. *Carioca Sound Stories* - based on extensive field recording undertaken during two periods spent living in Rio de Janeiro, Brazil - also employs the device of text annotation to represent the process and problematics in using field recordings as artistic materials. The piece highlights my experiences recording in the field: issues that arose, knowledge gained, difficulties encountered and further questions that emerged. Furthermore, the compositions reflect on the active agency that my roles as listener, recordist and composer have, both in my understanding of that fieldwork, and in composing with the recordings – a reflexive ethnographic mentality found in anthropology.

2 Sonic Ethnography and Field Recording

The study of the senses is a relatively emergent disciplinary focus in anthropology, growing from key literature and practice such as Feld's *Sound and Sentiment* (1982; 2nd ed. 1990) and Stoller's *The Taste of Ethnographic Things* (1989; 2nd ed. 2010). Within the boundaries of ethnomusicology, the anthropological study of sound could be said to have a longer lineage: at least from the middle of the last century (Kunst, 1950; 1955), or earlier still within the 'comparative musicology' of the early 20th Century (see Merriam, 1977). Both ethnomusicologists and those practicing anthropology of the senses (particularly sound, in this context) retain fieldwork as a core element of their research practice. Fieldwork in these areas does not isolate the sonic, but rather further attempts to understand how sound may emphasise the social, political and cultural dimensions from which it emanates.

One of the pioneers of anthropology as sound, and a practitioner of ethnographic study through listening and sound recording, is Steve Feld. His term 'acoustemology' (1996) was coined to describe one's sonic way of knowing and being in the world. Meanwhile, John Levack Drever highlights the commonality between ethnography and soundscape composition, which since the late 1970s has become a common artistic application of field recordings.[2] Drever writes that both ethnography and soundscape are 'interdisciplinary contextual enquires' that stem from 'fieldwork primarily through sensuous experience' (2002: 24).

2For example the work of Barry Traux, and the World Soundscape Project more generally, of which Feld was also a member.

The artistic practice of field recording[3] shares many aspects in common with traditional ethnographic fieldwork per se, in particular its tendency for long-form contemplation, and an inclination to adopt the position of passive observer. However, practitioners in the art of field recording are currently experiencing an 'ethnographic turn' similar to the crisis of conscience that rumbled through anthropology in the 1970s and 80s, which overhauled the practice of ethnographic fieldwork in the process (see Clifford and Marcus, 1986). Recent sonic arts discourse has engaged with the artistic practice of field recording in a similar way, calling for scholars and practitioners to acknowledge the presence of the recordist as an active agent in the field (Voeglin 2014, Lane & Carlyle 2013, Demers 2009). This recognition carries with it a heightened sense of awareness and responsibility on behalf of the recordist. As in ethnography, those undertaking field recording are now encouraged to be increasingly reflexive. The choices over what sounds one might record, where, when, how and crucially, why, all become much more significant factors.

While approaches to ethnography and field recording may share many similarities, studies within anthropology have typically distinct disciplinary objectives, ethical codes and ways of representing outcomes compared to sound composition. Anthropological work has often been bound by the notion of the written text as the dominant form to present findings. Ethnographer Dwight Conquergood notes the trepidation most anthropologists feel when straying from the written word. He asks: '[w]hat are the rhetorical problematics of performance as a complementary or alternative form of "publishing" research? It is one thing to talk about performance as a model for cultural process, as a heuristic for understanding social life, as long as that performance-sensitive talk eventually gets "written-up"' (Conquergood, 1991: 190). This view, seen from the perspective of a practice-based researcher in the sonic arts, begins to highlight both the limitations of text and the benefits of creative sound practice as a useful and relevant medium for the communication and dissemination of knowledge gained through fieldwork.

Anthropologists Arnd Schneider and Christopher Wright have written extensively about the conceptual boundaries, overlaps and 'border zones' between art and anthropology, focusing on how supposed divisions between the two practices actually mask much common ground. They argue for greater acceptance within anthropology towards more artistic, non-textual and experimental fieldwork, stating that the 'tension between maintaining the standards of the discipline and developing new forms of anthropological knowledge has for too long been overly weighted in favour of the former' (2010: 3). Feld also recognises the border zones between art and anthropology, noting that field recording might act as a crucial bridge. He says: 'for me art-making is something that could be central to anthropological thinking. But it has never happened. Field recording could be an important piece of making the connection' (Lane and Carlyle, 2013: 211).

So, anthropologists are encouraged to embrace less formalised approaches to fieldwork and its representations, while field recordists are equally urged to demonstrate a greater sense of self-awareness within their work and its dissemination. Here we see further movement towards mutual interdisciplinary goals, but equally a potential clash of fundamentals: the formal methodological structures of ethnography against the wilfully experimental and actively non-standardised forms of contemporary arts practice.

3Although field recording has its origins in wildlife documentation and ethnographic research, through the inclusion of environmental sound in experimental music it has become recognised as an artistic practice in its own right. For more, see Lane and Carlyle, *In The Field: The Art of Field Recording* (2013).

Schneider & Wright support the art-making as documentation, describing anthropology as being in a state of 'inertia':

> Experimentation, in the sense of formal experimentation with representation strategies and outputs, is clearly seen as absolutely central to the development of contemporary art – the situation is less clear within anthropology where there is much to mitigate against the taking of risks in the area of how to conduct ethnographic research and present the subsequent knowledge. This disciplinary and institutional inertia remains an obstacle to the development of a more experimental visual anthropology. (Schneider & Wright, 2010: 11)

As the practices of ethnography in sound and field recording move closer in terms of objectives, ethical rigour and ways of representing fieldwork, possibilities for new forms of reflexive sonic arts practice and sonic ethnography emerge specifically to test those thresholds and border zones. This is demonstrated in the work of Rupert Cox and Angus Carlyle, Ernst Karel, and Justin Bennett, all discussed below. First, how does this reflexive methodology affect the fieldworker, or recordist, *in* the field?

3 Field Method

Ethnomusicology has much to offer practice-based researchers of various disciplines looking for reflexively written experiences of fieldwork. It is particularly useful here for its focus on music and sound informing understanding of human activity and culture. Barz & Cooley's editions of *Shadows in the Field* (1997, 2008) have become particularly important contributions. This edited collection of essays encourages practice-focused approaches, emphasising process over structured outcomes, and encouraging non-standard (i.e. non-text-reliant) presentation formats for disseminating knowledge acquired in the field.

Ethnomusicologist Jeff Todd Titon (2008) proposes a rigorous redefinition of basic fieldwork to be 'no longer viewed principally as observing and collecting… but as experiencing and understanding' (p. 25). He continues that representation of this knowledge should avoid text-reliant forms, whereby 'meaningful actions be experienced as music, not read as text' (p. 28). These experiences should represent 'the insights as well as the ambiguities of the experience of acquiring knowledge through fieldwork' (p. 35). Barz and Cooley stress 'how important it is for the reader to get a sense of the relationships the author developed in the field. Everything that comes later—analysis, interpretation, theory—depends on what happened in the "field"' (ix).

3.1 Cox and Carlyle

This evolving relationship between author and the field is clearly witnessed in Rupert Cox & Angus Carlyle's audio-visual work *The Cave Mouth and the Giant Voice* (2015). The work recounts a conversation with a participant that resulted from a site visit during fieldwork. A selection of quotations from a resulting interview is displayed in text on screen, while we simultaneously listen to a field recording of the cave where the conversation took place. Accompanying notes tell us the participant was compelled to speak to the

anthropologist-artists precisely because the group had visited that cave environment as part of their field research.

The interplay of relationships between site, participant and authors within *The Cave Mouth and the Giant Voice* are clearly defined and displayed to the audience. Crucially, both re-tellings of the event in question – the participant to anthropologist-artists, and their subsequent version to us as audience – were mediated through site-specific sound experience. The participant was compelled to speak through being inside the cave. A recording of this cave is the reproduced sound environment in which we, the audience, receive his words when experiencing the piece. This demonstrates a logical connection between listening, field recording, and the roles of author, participant, and wider audience. As such, Cox and Carlyle's piece can be understood to address Titon's proposition for practice-based research, outlined above. The anthropologist-artists position their sound-orientated fieldwork as 'experiencing and understanding'. Its public presentation is 'experienced as music' (sound art) which, as Titon requests, provides 'insights … into the experience of acquiring knowledge through fieldwork'. This is achieved by evoking, in sound, the site where the work happened and where the knowledge was acquired.

3.2 Field notes

Hand-written field notes in ethnographic work are commonly thought of as private documents, a set of *aides-mémoire* to refer to when 'writing-up' the completed fieldwork. Sociologist Brendan Ciaran Browne (2013) posits the merits of 'making visible the invisible processes of fieldwork'. He suggests fieldworkers should always keep detailed field diaries to record and critically reflect upon the emotional effects that undertaking fieldwork has. He argues that notes should not exclude personal uncertainties over methodology and even the chosen field or research topic. He suggests that personal fieldwork diaries 'become useful repositories for critical reflection on the research process as it is unfolding … fieldwork diaries act as the place where personal stories of rapport building and strange encounters are recorded' (p. 432). My own emotional and critical reflections on the continual unfolding of fieldwork can be heard, for example, throughout the recorded voice-over in *Rio: An Outsider Inside,* and in questioning my position as recordist-composer through text annotations in *Carioca Sound Stories*.

Social scientist Simon Borg refers to the psycho-emotional support the research diary provides. He writes that 'we rarely hear about the emotional side of doing research, and the implicit message researchers may derive from this silence is that emotions have no role to play in their work … the research journal can assist the researcher in acknowledging these emotions, expressing them, and, particularly where these emotions threaten the progress of the research, analysing and reacting to them' (2001: 164).

Browne and Borg both indicate the benefits of adopting a reflexive approach to the emotional self when in the field. This can be applied to the practice of field recording through the work of ethnomusicologist Gregory Barz. Barz describes field research as

'performed' and this to be 'one of the most meaningful processes engaged by ethnomusicologists to define themselves' (2008: 206). Barz presents his own fieldnotes 'in tandem with other voices' – a total of three distinct voices 'read' the same notes. The original written note is his unedited, emotional voice in the field. A more reflective 'headnote' voice then re-reads his original text. Both of these are read later with a third, more distanced voice of experience, often after the fieldwork is complete. How then, does this translate into composed sound arts practice based on a reflexive approach to the field?

4 Composing The Field

The act of field recording may be considered to contain fundamental compositional decision-making at its core. The time, location, choice of equipment, microphone placement, length of recording and number of repeat visits made to a site are decisions made by the recordist-composer. All of these decisions may greatly affect the outcome of the sounds then presented or composed with. Therefore, perhaps field recording should be considered an act of composition in itself. From his very earliest outputs, the representations of Feld's field studies moved beyond documentation and into a compositional mode. He recalls: 'I came to imagine a life working in sound both as a musician-composer-engineer and as an anthropologist … [to] maintain a creative and analytic relationship to both the materiality and sociality of sound' (Feld and Brenneis, 2004: 462). Feld's notion of maintaining a balance in sound between creative and analytic, materiality and sociality is important to the compositional practice discussed throughout this paper. These tipping points are heard being negotiated through *Carioca Sound Stories* and recent works by other artists.

4.1 Ernst Karel

The 'experimental non-fiction sound works'[4] of Ernst Karel at the Harvard Sensory Ethnography Lab similarly pursue this relationship between the materiality and sociality of sound. Karel's field recording practice strikes an aesthetic/ethnographic balance through edited compositions, which inform both sonic arts and anthropological practices. *Materials Recovery Facility* (2011) focuses on an industrial plant, which sorts 'single stream' recyclable materials.[5] The seventeen-minute audio piece presents a detailed account of its subject matters through a linear composition of field recordings. We hear recordings of mechanical equipment – machines that distinguish between mixed recyclable materials, a task that apparently households 'cannot be trusted to sort themselves' (Karel in Barrow, 2012: 16). In fact, a large population of human workers complete much of the sorting at the recycling plant. This paradoxical element of the recycling process is heard within Karel's piece.

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4 http://ek.klingt.org/bio.html (visited 1 October 2016)

5 Where all recyclable materials are collected together and sorted at a plant, rather than being sorted by the individuals before collection.

Documentation of Karel's chosen subject is investigated and presented in sound, delivered as a composed, artistic work. Within the piece, entries of new sound material begin with pitched content or open with clattering rhythmic gestures - Karel decidedly presenting the music within the machinery. We clearly hear distinct sections and cuts; important because as listeners, we then understand *where* the composer's intervention has occurred. Crucially, this gives the listener an awareness of what intent the researcher-composer has and why the field recordings have been made and presented.

Human intervention in an otherwise mechanical process is found both in the source subject and in the method of representation. Karel's interventions in cutting and editing the field recordings reflect the human intervention his recordings document in the recycling process. The piece strikes a balance between the creative and the analytical in both method and presentation. Reviewer Dan Barrow concludes that 'a whole network of social relations lies behind, and is implied by, the hum of conveyor belts, the background rumbles of engines, the clank of workers' boots on catwalks, the clunk and crunch of rubbish as it's sorted or fished out' (p. 16). Thus, *Materials Recovery Facility* shows how field recording and composition can creatively represent and reflect upon societal structures. It tests the border zones between documentary-artistic and exploratory-anthropologic formats in sound.

4.2 Justin Bennett

Justin Bennett's *Raw Materials* (2011) is an auto-ethnographic composition where sound documents the relationship between place and person, site and the social. This work for stereo sound and text consists of a collection of unrelated field recordings chosen at random from the artist's archive. These are played back seemingly to both the composer and listener in 'real time', while a typed text appears on the video screen – a letter addressed to 'J'. The text, written by the composer, reflects on his personal associations with the sounds. He tells us in the text that, 'with the sounds come smells, stories, feelings'. As the audience listens to each sound, the text continues: *I ask myself: where was it? When was it? What is happening? Who was with me? How did I feel? Why did I record this? What does it make me feel now?* Throughout the piece, Bennett answers each question in an informal and personal way. He makes short practical descriptions while simultaneously considering the retrospective memory and current personal impact of the same sound on himself as composer. This is an example of a reflexive-ethnographic approach to field recording, and its presentation in the form of art and performance. The sounds act as field notes, later heard accompanied with Barz's 'headnotes' voice: a self-conscious and self-critical form of re-reading his sonic diary entries.

5 Rio de Janeiro

I made a large collection of field recordings in Rio de Janeiro, Brazil, while based in the city on two separate residencies at the Universidade Federal do Rio de Janeiro (UFRJ).[6]

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6 The first residency was during the months of May and June 2013, and the second from March to May 2014.

These personal recordings were made to document and reflect upon the listening practice I was employing to try to understand more about the city through sound. These recordings became my field notes and personal diary. I came to understand them as intimate documents of my experiences in that city.

When addressing how I might begin to communicate the knowledge gained through the process of listening and recording, I questioned whether these recordings might have relevance to anyone but myself. As Salome Voeglin writes: 'some field recording is thus incredibly boring and irrelevant for all but the recordist: the exotica of the source replacing the idiosyncrasy of the material recorded, the pleasures and complexities of which are hidden and inaccessible to an audience standing by and listening in' (2014: 16). A moment in *Carioca Sound Stories* echoes this sentiment: *I find it hard… to make this recording speak / to reveal something, other than what I know* (08.00-08.22)

5.1 Active Criticality

The difficulties of communicating the 'pleasures and complexities' of these field recordings from Rio became a large part of the impulse to compose. The work became an opportunity for me as recordist-composer to address such issues. As LaBelle writes (quoted in full at the beginning of this paper), through the works, I strive 'to achieve a more active criticality' by 'inhabiting' the very problems inherent within the act of composing with field recordings. To achieve this, 'annotation' as a compositional device is employed to inhabit the field recordings and their problematic issues - combining some composed sound materials as annotation, alongside Bartz's concept of 'headnotes' translated into text annotations and the original field recordings. Through these annotations I ask questions of the relevance of the recordings to others, and of the neutrality of my position as recordist. By asking these questions *within* the works, Barz's headnotes process becomes a new compositional method.

6 *Carioca Sound Stories*

The piece revolves around the two key themes of juxtaposition and stereotype, following extended fieldwork living April and May 2014, which were spent living in the more affluent south of Rio de Janeiro and working in the Complexo da Maré favela.[7] The geographic and the socio-political landscapes I witnessed while recording throughout the city of Rio presented clear disparities to me, at times seemingly contradictory. The difficulties in attempting to convey anything other than the positive 'marketed' Brazilian stereotypes (sun, sea and samba) or the similarly stereotypical negative aspects (angry, underprivileged poor) were laid bare when trying to communicate this in sound.

The piece has seven segued sections. Like *Rio: An Outsider, Inside*, most sections present edited elements from a single recording: short sections spliced together from a longer single take, always maintaining chronological sequence. Some sections contain the addition of manipulated, layered sounds and sampled music – particularly the first, second and final sections. The sampled Jorge Ben record is of personal significance, heard first

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7Maré is a large cluster of sixteen different communities in the north of the city, home to around 140,000 people.

when visiting the apartment of a friend, a relationship forged during fieldwork (the host of the party at Pedra do Sal – see above).

The piece employs the use of dramatic tension, silence, and interplay between text and sound. While the text is intended to give context and insight for an audience, long sections of a blank screen allow time for reflection and undistracted concentration on the field recordings. This might allow an audience to consider their own relationship to the recordings, as the narrative 'voice' of the text does.

The audience experiences the original sounds and my subsequent reflections on them, including dilemmas and doubts, in 'real-time'. The audio-textual experience represents my emotional responses to the sounds, where text 'headnotes' explicitly communicate personal and contextual reflections. The composition simultaneously conveys my experiences in the moment and reflections gained with hindsight. The intention is to make clear the ambiguity and problems of translating field experience into something meaningful for anyone who hasn't experienced that field.

6.1 Comparison

By drawing comparison with the works discussed above by Cox and Carlyle, Karel and Bennett, we may critically evaluate the original aspects of *Carioca Sound Stories*. Imagine a linear continuum along which these documentary-compositions might be positioned. If the anthropologically-minded discussions of a specific scenario found in *Materials Recovery Facility* (Karel) and *The Cave Mouth and the Giant Voice* (Cox and Carlyle) are at one end, the artist-led auto-ethnographic *Raw Materials* (Bennett) at the other, *Carioca Sound Stories* (*CSS*) might be found in between, containing elements characteristic to both ends, as well as some unique features.

All four pieces present and investigate specific sites in sound, using edited but otherwise untreated field recordings. *CSS* also incorporates composed materials. Karel includes no annotation, while the other three pieces feature white text on a black screen to provide context. Like Karel's human/mechanical paradox, the juxtaposition of binaries is present in *CSS* through the various disparities heard in both the geographic and socio-political landscapes.

Similar to Bennett, the personal relationship between place and person is also apparent, linking the chosen site with the recordist who chose to record it. Unlike Bennett's work however, *CSS* is not purely personal, nor are the field recordings heard at random. The 'reflexive self' narrates both pieces, and both also use dramatic tension through the text annotations guides an audience along a narrative of personal insight and thought.

The most unique element to *Carioca Sound Stories* is the demonstrable tension between the composer as artist, while simultaneously interrogating the role of field recordist as reflexive fieldworker. The difficulties inherent in maintaining Feld's suggestion of 'a creative and analytic relationship to both the materiality and sociality of sound' are displayed, and as such, the piece answers LaBelle's call to 'inhabit' that very problem, *through* the work itself.

Conclusion

The form and function of the works discussed in this paper pose questions of field recording practice, of 'context-based' composition practice, of how the recordist-composer is heard represented within them. The sound arts works discussed are all informed by an ethnographic approach to fieldwork through sound, drawing on methodological approaches and thinking of sensory practitioners from within sonic arts and other related disciplines.

In grouping and comparing these compositions, this paper aims to move towards a methodology for field recording understood as reflexive-ethnographic fieldwork. Following this work, other field recordists may also discover, as I have done, new approaches and outcomes by developing reflexive approaches in the field. This may benefit sonic arts practice in further understanding the role and placement of the self, when making art works involving field recordings. It might also aid other disciplines employing ethnographic studies in furthering non-standard and sound-focused forms of representing fieldwork and knowledge gained in the field, demonstrating some possibilities for alternative forms of anthropological representation. Crucially, b y displaying the interventions and emotional responses of the recordist-composer, these works make clear the active agency anyone has when interacting with or documenting an identified field.

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38. The experience of sonority: the dangers of a journey into the unknown

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Abstract: In this article I seek to discuss the notion of *sonority* from the perspective of musical composition. Therefore, I place the notion of *sonority* not as a concept circumscribed in analysis and composition theories that take sound as a *thing* and handle it from its parameterization, but as an idea of a more dynamic and holistic nature. Thus, sonority is repositioned from the listening: not a reduced one, but an enlarged listening; not purely cochlear, nor tympanic, but sensitive, affective and imaginative. *Sonority* is understood, thus, as from the notion of *experience.* Throughout the article, the reflection concerning the notion of *sonority* will be illustrated by brief comments on my piece *A menina que virou chuva* [The girl who became rain] (2013), for orchestra, on which I will look for approaching either the *inside* and the *outside* of the sound, the *intra* and the *extra* musical dimensions, the objective and the subjective. For this reason, alongside these comments, there will be a great number of elements generally considered exterior to music, such as metaphors, borrowings from other arts and a whole imagetic and multisensorial universe that permeates the fields of sonorities within my creative process. These comments will always be in specific text boxes.[1]

Keywords: composition, listening, sonority, sound image, imagination, experience.

1. The sonority as experience

In recent years the term *sonority* has gained great prominence in the scope of the academic research, resulting in a extensive bibliographical *corpus*. Part of this bibliography is committed to legitimize the *sonority* as the compositional paradigm of the new times, but, for this purpose, it makes it from the repetition of a *modus operandi* similar or identical to those used in the past. With this in mind, if one wants sonority to be understood as a new compositional paradigm, and not only as surface element, it is necessary to understand how it can be thought within the perspective of *musical structuration*, i.e., as it can articulate *material* and *form* at the core of the composition. In this case, it is necessary to subject it to the laws of valuation already established in the canonic speech of the music theory and composition, guided by laws of *logic*, *coherence* and *comprehensibility* – just to keep some emblematic Schoenberg's expressions. Therefore it is reasonable that *sonority* certifies its capacity to operate as an objective element of formal organization, a task formerly often assigned to the pitches as demonstrated by many statements regarding the *overcoming* of the *paradigm of the note* through what is conventionally called *paradigm of the sound*. The speech is not about a breach of the hierarchic logic of the elements on the compositional context; far from it, it is about the exchange of the "monarch". The composition keeps on being understood as a space of dispute and of power games, in which certain elements subject others and others are subjected. From a parameterized,

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quantified and fragmented listening, the sonority is instrumentalized: it becomes an abstract and operational entity, closing itself to the experience.[2]

A menina que virou chuva [The girl who became rain]

The piece (http://www.valeriabonafe.com/a-menina-que-virou-chuva) might be listened to as the continuous chaining of three particular sonorities: *Evaporação* [Evaporation], *Condensação* [Condensation] and *Depois da chuva* [After rain].

In *A espessura da sonoridade: entre o som e a imagem* (2013), Rodolfo Caesar considers the following question: "what would be the limits of the sonority's tessitura?". The questioning from Caesar is more of a provocation then an actual question. Against great part of the current bibliography on the subject, Caesar does not pursue possible answers that can establish the limits of this tessitura. What Caesar suggests in his text is, in reality, the widening, if not the complete dilution of any limit of tessitura.

> Great part of the composers prefer to circumscribe the field of the sonorous to a space of determined thickness, known as "sonority" – as if this word could not be broadened to its most extensive range. It is appropriate to problematize this expression, which, more and more – for the common sense and for the specialist – points towards a single direction, to a "internal" "core" of the sound. Thus, this listening – by diverse injunctions – is confined to an experience, which gravity center comes down to the "intrinsic" features, or in the "interiority" of the sound (Caesar, *The composition of electroacoustic music*, 1992). Thus, the amplitude – that is perhaps the richest feature of the sonorous field conquered by Western music in the mid-twentieth Century – ends up being rejected due to filtering (Caesar, 2013).

As Caesar points out, in this conception of *sonority* – understood as a space of definite thickness – there is something of a Hanslickian, formalistic nature. And he also remarks that within this same perspective, approaches as those of Schaeffer and Smalley, were, in certain contexts, converted into a kind of a translated version of *structural listening*, regardless of their authors.

In dialogue with Caesar's and other authors' approach, who will be mentioned throughout the present text, I see the notion of sonority not as a concept circumscribed in analysis and composition theories that take sound as a thing and handle it from its parameterization, but as an idea of a more dynamic and holistic nature. Thus, sonority is repositioned from the listening: not a reduced one, but an enlarged listening; not purely cochlear, nor tympanic, but sensitive, affective and imaginative. The sonority combined with a *radial* conception of listening.

> The aim is neither to deny, at this late point, the instrumental possibility nor the aesthetic fruition of "a structuralizing" listening, typo-morphological, etc. Yet, it is simply to try to stimulate the return of the radial vocation of the enlarged listening – as well as all the

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[2] In this article I use the Benjaminian concept of experience (*Erfahrung*). "What does experience mean? Etymologically, the word that Walter Benjamin uses is *Erfahrung*. *Erfahrung* in German, it means experience and the radical is *fahr*, which originates *fahren*, which means to travel. In Old German, *fahr* means to cross a region during a trip, through unknown places. And the Latin word for experience has as a radical *per*: to leave a perimeter, to leave the condition of the already known and already lived to expand 'lived experiences', circumstances and repercussions of these new circumstances over our lives. And from *per* also comes the word *periculum*: to cross a region during a trip, in which dangers can strike us. And for these dangers, there is the word that relates to *periculum*, which is *oportunus* which is *portus* which means exit. Thus, the experiences that happened to us during a journey into the unknown, over a trip, are experiences that widen our identity, our knowledge, our sensitivity and our conditions in the world" (Matos, 2009).

perception modalities are enlarged. In other words: it is reasonable to accept the possibility of a cohabitation of the two opposing, yet complementary forces: the sound would have – together with its centripetal interiority – a centrifugal radiation pointing towards all directions. From the "core" object of the sound, an omnidirectional radiation emanates and, during its course, reaches and transforms us (Caesar, 2013).

Caesar's approach is, in many aspects, aligned with the reflection concerning the notion of *sonority* developed by Silvio Ferraz in his book *Livro das sonoridades* (2005). In this book, Ferraz also made an effort to encompass the notion of *sonority* on the basis of an enlarged listening, neither centered in the capture of the form nor the interiority of the sound matter. The notion of *sonority*, therefore, would necessarily comprehend a listening, which is also configured as a journey into the unknown, as *experience*.[3]

> Neither the sound matter nor the form leads the listening. […] At the risk of misconcepting it, I say that: what we hear, and what leads our listening is not that much in the materiality or the form, but exactly in what it would be in the in-betweens of the form; thus listening to the music would be simply to let oneself go to places that are created, by moments that turn a matter into expressive material, and which forces help us make connections (I'm talking about any connections: remember a place, imagine an image, listen to a sonority, connect a sound with another one, listen to a drawing, a ratio, any meaning at all) and, from time to time, to be shaken by one cut, a change of place […] (Ferraz, 2005: 41-42).

3I recollect the article *Som e sonoridade: as imagens do tempo na escuta musical* (2007), of Rodrigo Fonseca and Rodrigues, in which the author carries through a synthesis of the notion of *sonority* displayed by Silvio Ferraz in *Livro das sonoridades* (2005): "It is at this final moment that we fall back on what Ferraz tells us about what defines *sonority*, and on why this is the concept that expresses what the insufficient concepts of sound, of sound object, of sound or music form and matter, would not reach. The suffix of the word "sonority" denotes, generically, qualitative and adjective timbre aspects of the sound. The concept of *sonority* describes firstly the process, the totality of the unfoldings implied in the listening, and not the sonorous thing. The issue is neither about listening to the sound, nor to what is in the sound, but to what is *within* the listening, in the powers that affect us and that move around, that are created by the listening" (Rodrigues 2007: 82).

Evaporação **[Evaporation]**

Evaporação, the first one among the three sonorities that compose *A menina que virou chuva*, begin with the frictional movement of a tam-tam. On the score, I have requested the usage of a superball mallet with very-small head in order to stimulate the production of very high frequencies. Rubbing a tam-tam of great dimensions, a impactful effect can be produced with a minimum movement of the arm on the instrument. The sound richness of the rubbed tam-tam is the outcome of the combination of pressure variation and mallet speed on the surface, making it possible to obtain very powerful sounds with a corporal movement sufficiently restrained. The sound produced by the rubbed tam-tam is very unstable, and from the projection point of view it is extremely diffuse. In this sense, I have considered very interesting scenic effect that could derive from the contrast between viewing an entirely still orchestra and listening to a sound, which source would not be easily recognizable. There was the intention to initiate the piece with a sonority that would refer to a psychic condition of hallucination, delirium, unreality.

The treatment given to the strings during the *Evaporation* sonority – especially in the initial measures – derived from a type of more mimetic *sound imagination* than that one implied in the use of the tam-tam. For the strings, I have imagined a rarefied texture of a very weak breathing (of inhaling, to be more specific), nearly minimal. The indications of *alto sul ponticello* (bow pretty above the bridge, indeed) plus *arco flautato* and *molto soffio* (without pressure oscillation, keeping always a very fast bowing, barely with adherence) that are found soon at the beginning of the score were aimed to extract from the strings an absolutely aerated sonority, having the unison on the *A5* merely as a focal point of this frequency band. The *crescendi* should have as intensity limit a sufficiently audible air sound, without losing its *flautato* quality, however, and without it becoming a very precise pitch. The fermatas should contribute to this effect, which, after all, aimed to simulate the intermittence of a blow of very thin air. A set of technical solutions, which could comprehend a sound image that I have heard-formed-imagined: the last inhale, the accurate point of death.

This first sonority is still composed by three other gestures: *tremolo veloce*, *tutto l'arco* and the *glissandi*. The three gestures contribute to model the texture, which tends to become gradually denser throughout the time. The *glissandi,* in special, collaborate with the widening of the spectrum of frequencies, diluting the initial focal point on *A5.* In these *glissandi* of a pretty narrow range the ancestral sonority of lament would be implied, reminding the sonority of *carpideiras* [professional female mourners] crying, during their performance at funeral ceremonies.

2. Listening as experience

In the article *Composição por metáforas* (2007), Denise Garcia delivers a kind of retrospective of her path as a composer, making remarks on pieces written since her earlier years until recent works. Since the beginning of the text, she indicates an underlying trait of her creative process: the use of metaphors.

> I write this text in order to establish my statement, or more accurately some examples of how my creative process, many times, takes place by means of processes of simulation, transposition, translation, of imitation of sound, visual and other types of images that occur to me and I'd like and intend to call them metaphors. Metaphor in a wide sense, but with an opposite intent, which I believe is so ordinary in many composers: the music or the sound not being a substitute or a reference or a representation of any other sign […]. The images or models can be starting points, but not necessarily the meaning of a music – the music does not stand for that specific image or another one, and every time that this was intended, what really is the piece was hugely reduced: an open box that allows each listener to have their own individual experience, but above all musical (Garcia, 2007: 54).

Therefore there is the possibility for working with different perception fields: visual, auditory, tactile, proprioceptive, etc. From this perspective, the creative process is essentially multiple, omnidirectional, in the sense of imagination. The idea of metaphor is designed not in the sense of the representation, that is, of a thing in the place of another one. The metaphors – images or models – are understood as triggers and stimuli of the creative process.

I notice a certain convergence between Denise Garcia's and Kaija Saariaho's approaches. In interviews and program notes, Kaija Saariaho's on her own compositions are as a rule full of visible elements, such as shapes, colors, light, shade, etc. According to Pirkko Moisala, her biographer, Saariaho has always sought to work in a kind of continuity between the experience of the eye and the ear. Moisala's remark could also be extended to touch, taste and smell indeed. The work of Saariaho could, thus, be understood in the continuity between the experience of the hearing and all the other senses, in a complex field, where the listening is always multisensory. Therefore it's not awkward to find comments from the composer herself on even the importance of perfumes and fragrances for the construction of determined sonorities.

> I cannot separate these things [musical and visual dimensions] from each other and, in my opinion, one should not even attempt to do so. This differentiation is based on the traditional view, but I am quite convinced that, in addition to the eye and the ear, there are close relationships between the other senses. The senses must not be firmly delineated. Although music is what interests me most and my ways of expression are musical, I do not think of these things as separate categories (Saariaho *apud* Moisala, 2009: 53).

The works of Denise Garcia and Kaija Saariaho seem to point towards a type of reception, which does not presuppose the listening as an act of capture of sound *per se*. There is no addressing whatsoever of a listening that is established as a filtering, cleaning process or a pure sound analysis. Either in the process of elaborating the pieces, either at the enjoyment moment, the body would be open and the imagination would establish itself as a space of interlaced images of a diverse nature. There is indeed an idea of a *multimodal listening*.

> The body of the listener is open, there is no lack entrances nor exits, contact areas with the outside of the body. And these places intertwine themselves, the sound is not priority to the ear. Low sounds resonate all over the body, very high sounds and of great energy make the teeth grit. This is how the sound goes through almost all the senses; by the sight, when I say that a sound is bright, when I talk about a line; by the touch, when I talk about its roughness; by my proprioception, when I say that it is heavy, that it is light, that

floats or that it is deep. The sound perception is multimodal. There's no ear privilege (Ferraz, 2015: 3-4).[4]

There is no privilege, but neither there is ear disadvantage to the ear. It is not about actually ranking the manners of perception by hierarchy, but about understanding how the *mental images* that we get from the listening sprout necessarily from the interaction among these manners. Neither an extreme nor the other: one has to consider the interaction between what it is from the audible scope and what is constructed in our imagination based on an enlarged listening, which is understood as *experience*.

> The change generated by the technological mediation concerning the musical listening was not only contextual, but it has significantly modified the relation that the listeners establish with music. To listen is an exercise, it means to pay attention to something, it is an attitude towards a sonorous content. […] Though, of course, one can also listen with the body, with the eyes and even more, with memories, with sensations. Although the concert hall boosts an attention focused on the audible, there's much more than sound in the experience of listening (Iazzetta, 2009: 37-38).

4I would like to thank the author for kindly sharing this unpublished version of the text.

Condensação [Condensation]

Regarding the instrumentation, the sonority *Condensação* is still branded by the presence of the strings, however with the addition of wind instruments and the subtraction of the tam-tam. Different from the sonority *Evaporação* – characterized by a more rarefied texture – this sonority is built by multiple layers, and proposes a listening a little bit more complex and turbulent. From the global point of view, one can segment this sonority in two strata: a more dynamic sound mass, which is carried out by the wind instruments; and a more static sound mass, carried out by the strings.

The sound mass carried out by the wind instruments is composed of fourteen voices (fl., ob., cl., bs.cl., 2bn., 4hn., tpt. 2tbn., bs.tbn.) and it has a variable density. Over time, it goes gradually from a minimum density (two overlapping voices) to a maximum density (ten overlapping voices). Inside this sound mass, each one of the voices presents very wavy and unstable profiles, marked by melodic zigzag contours, rhythmic *acelerandi* and *ritardandi* (through the constant changing tuplets sets) and sufficiently flexible dynamic curves. Here the sound image was one of a gradual accumulation of incessant and confused murmurs. Inside this sound mass, these murmurs are intertwined by the employment of micropolyphony. At first, these murmurs always exhibit relative stability, consistently having some specific pitch that operates as center of attraction and, around which melodic undulations befall. Onward in time, when this sound mass reaches its maximum density, these murmurs start to suddenly let go of its respective centers and to head towards the extreme low register of each instrument, causing a global effect of texture draining, which climax with the total silence of all wind instruments.

Opposed to the dynamism and the directionality, which constitute the sound mass constructed by the wind instruments, the sound mass carried out by the strings depicts a more steady global profile. This sound mass is density fixed (it is composed by a permanent group of ten voices: vln. I, vln. II, vla., vlc. and db., all with *divisi a 2*) and it is characterized by sustained long notes. In a certain sense, it can be understood as a kind of harmonic texture base that works as background for the sound mass carried out by the wind instruments. However, the presence of an almost uninterrupted movement of *glissandi* (increased by dynamics variations) guarantees a certain degree of wealth for this static sound mass. The game of *glissandi* in the string is very simple: it is only about a process of timbre rotation, that is, a permutation of the instruments inside the same harmonic set in an analogous operation to the *Klangfarbenmelodie*.

This permutation process through a game of continuous *glissandi* between fixed points of a frozen harmony aimed to guarantee a sensation of perpetual movement to this layer composed by the strings, without allowing, however, that it clearly traced some path of directional harmonic displacement. The image that worked in the construction of this sound mass carried out by the strings was the one of a continuous movement of a gear spinning aimlessly: the anguish created by the conflict between the perception of a time that passes by and the spirit that keeps itself as a prisoner of memories.

3. To listen is to form images; to compose is to think through images

Traditionally, the term *image* is associated with the sight sense, therefore it has been restricted to activities that require exclusively the eyes and all the corporal mechanism involved in the act of seeing. This is what Google Images, for instance, tells us. When searching for the word "cicada", Google search platform does not return any audio file with the sounds of cicadas. It returns a set of figures, drawings, engravings, etc.; images captured by photography or that were even digitally generated. The cicada is depicted in a library of visual images, being exclusively perceived by the eyes. The curious thing is how often is it possible to see a cicada and how ordinary is it to listen to it. At a very young age one learns what is a cicada through sound and not visual images. It seems indeed to be of great challenge to distinguish a cicada in a set of visual images of several insects. On the other hand, it would possibly be the first insect to be identified if this exactly set had been of sound images. After all, what is the *image* of a cicada?

In recent texts[5] Rodolfo Caesar has discussed the idea of *sound* as *image* aiming to dilute the apparent dichotomy between these two terms. He highlights that, although the notion of image appears in some authors as an attribute of either the visual and sonorous field (Paul Valéry's and Walter Benjamin's fragments are referenced by Caesar), usually the word still "keeps on referring to direct or indirect experiences of visuality, whereas the sound belongs to an obscure region of the perception" (Caesar, 2013).

Perhaps the total identification between *image* and *sight* is also related to the fact that the association between the words *image* and *imagination* is not necessarily immediate. In general the term *image* tends to be used to indicate what is *outside* the subject, what is liable to be apprehended by the apparatus of the vision, and not something that occurs *in* our minds, in an operation that relies on the interaction between subject and object. For instance, going back to Google search tool, one can observe that on the search menu the term *images* appears beside *videos, news, maps*. If I decide make a similar search as the "cicada" one, but instead I search for "São Paulo" on the *images* tab, for example, the research returns a library that essentially gathers aerial pictures of the city of São Paulo. And Google calls these pictures *images* and not photos. But if the criterion of the Google tool for the definition of the term *images* was only *visuality*, shouldn't the written news and the city maps, which are there to be *seen* on the screen of the computer, also be grouped in the category *images*? The idea of *image* emerges as an object, as a *thing*. The photograph or the digital drawing, i.e., the stimulation sources to the creation of mental images are already taken as image themselves. Image is then understood as a category conceived externally to the subject: the notions of *image* and *imagination* do not appear be implied in one another.

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5 Here I especially refer to the texts *O som como imagem* (2012) e *A espessura da sonoridade: entre o som e a imagem* (2013), but also *As grandes orelhas da escuta* (2007) and the book *Círculos Ceifados* (2008).

Coming back to Caesar's texts, what can be observed is not only the defense of the dilution of the dichotomy sound/image, but also an effort to recover the exact sense of *imagination* inside the notion of *image*. Thus, Caesar alludes to not only visual and sound *image*, but also to visual and sound *imagination*.

> In my proposition the sound is already an image, even when the only available supports are the air and the brain, and when its transmission is from mouth to ear, or from things that are sonorous to the ear. As well as the mental visual image is a mental image, the sound image is also so, and it should not be mistaken for a "visualization", or visual synesthesia through the hearing sense. As well as seeing, to listen is always to form images (Cesar, 2013).

In a conference developed for the series *Charles Eliot Norton Lectures*[6], Italo Calvino warned about the dangers of a crisis of *visibility* – and therefore of *imagination* – in the XXI century. For this conference, Calvino had a key-question in mind: "Will the literature of the fantastic be possible in the twenty-first century, with the growing inflation of prefabricated images?" (Calvino, 1988: 95). After mapping out the value of visibility in the history of literature, he suggests a possible crisis of *visibility*, especially on account of the increasing visual bombing offered by communication media, thus warning about the danger of the total dissolution of this value.

> If I have included visibility in my list of values to be saved, it is to give warning of the danger we run in losing a basic human faculty: the power of bringing visions into focus with our eyes shut, of bringing forth forms and colors from the line of black letters on a white page, and in fact of *thinking* in terms of images (Calvino, 1988: 92).

In addition to Calvino's forecasts and possible solutions concerning the maintenance of visibility as a literary value, it's worth it to observe the way he articulates this notion in his creative process. Having his work composed of stories, novels and short text series, Calvino gave priority to fictional narratives inherent in the genre of fantasy literature. When describing the way he has worked, Calvino identifies *image* as a trigger of his creative process.

> In devising a story, therefore, the first thing that comes to my mind is an image that for some reason strikes me as charged with meaning, even if I cannot formulate this meaning in discursive or conceptual terms. As soon as the image has become sufficiently clear in my mind, I set about developing it into a story; or better yet, it is the images themselves that develop their own implicit potentialities, the story they carry within them (Calvino, 1988: 88-89).

Even with Calvino working in the key of fictional narratives, it is not from the definition of scripts – that is, a story going on over the time – that he makes images sprout in his creative process. In contrast, it is from a determined image that a story – that will be unfolded in the time and will acquire a specific form – is constructed. To Calvino, to write is not to think through concepts, but through images.

6These lectures were to be held over the academic year of 1985-86, at the University of Harvard, but since he was deceased a little bit before his departure to the United States, the conferences have not actually happened. However they were published in 1988 under the title *Lezioni americane: Sei proposte per II prossimo millennio (Six memos for the next millennium)* .

Depois da chuva [After rain]

The third and last sonority for the piece – *Depois da chuva* – is marked by the presence of strings, wind instruments and tam-tam. This last sonority has been structured on an idea of choral texture, considering a more vertical listening. Differently from the sonority *Condensation*, the sound mass shaped here is not marked by an internal multiplicity of voices, but by a more welded, solid and homogeneous sonority. In spite of this, the wind instruments play a different role comparing to the strings. Whereas a sonority of instrumental grouping is actually meant to the strings, that is, the sonority of a timbre fusing, the wind instruments act in a little more autonomized way. Individually or in small combinations, the wind instruments execute short melodic fragments that highlight some contrapontistic movements embedded in the transitions between the different harmonic sets in course throughout this last sonority. These fragments are either totally synchronous to the transitions between the sets, or anticipate or delay certain melodic movements between them. By rupturing the massive sonority built by the strings, these fragments executed by the wind instruments contribute to the delineation of different landforms inside an essentially homophonic texture.

As a whole *Depois da chuva* is a more lyric and serene sonority. This sonority can be associated with the image of quietness after rain: an energy fall and the reduction of the flow-activity. However, differently from the previous sonorities, *Depois da chuva* hosts highly accentuated conflicts. Marked by sudden contrasts (of dynamics, orchestration, and especially of register), from a lyric and serene sonority, at certain moments acid and violent gestures break in, which end up characterizing it as a spasmodic sonority.

Evaporação, Condensação e *Depois da chuva*: three sonorities that form *A menina que virou chuva*. The sound image of rain itself, of water falling from the sky – that is, the *precipitation* phase –, would act in the piece in the strongest possible way: for a *present absence*. Framing this climactic point of the cycle of rain with images that would precede it and follow it, I preferred not to turn the rain itself sonorous. For me this is the great power of cutting/filtering what happens over the transition from *Condensação* to the sonority *Depois da chuva.* It is possible there to perceive the abrupt conversion from an extremely dense sonority to a sudden calmness. But, for the record, a kind of gap is established right after the cutting/filtering, since it takes a certain time until the oboes can be heard, rupturing the texture with a short melodic fragment, which set the sonority *Depois da chuva* off. Between the abrupt cut of *Condensação* and the gradual beginning of *Depois da chuva* sonority, only a *Eb2* can be heard, accompanied by some other frequencies in the medium/low register that are offered by the rubbed tam-tam (now with a superball mallet with large head). This *Eb2*, at first, is played by the double basses, but right after it gains other colorful sounds, moving through the bass clarinet and the bass trombone. This sonority composed by the amalgam of *Eb2* with rubbed tam-tam sounds can be understood as a possibility of silence sonification. From the point of view of the form, I projected these quiet measures as a kind of "inside out climax". From the point of view of the sonority, they had been imagined as a black hole inside of the piece, where time and space would cease to exist. Poetically, there would be here some possible experience of eternity: the overwhelming image of *forever*, of *nevermore*.

4. Where musical thoughts are originated

In the works of Saariaho, besides a complex multisensory field – where listening is modulated by a powerful multimodal perception – it is also possible to realize the importance of the incorporation of *narratives*. In her creative process, Saariaho recurrently takes the literature as a starting point, film stories or even her own personal life situations, i.e., of her own life experience. In any case, it is important to observe that the narratives are also used as spaces filled with imagetic content, and not exactly stories or scripts to be developed over time.

> Unlike many other composers who emphasize the abstract autonomy of musical works, Saariaho does not try to avoid drawing connections. In the program notes, she often describes the literary or visual impulse that led her to compose the work and may have provided both the title and the focal point for the composition. She also sees the connections between her own life and her works: "everything I experience and live, I absorb into myself and there my musical thoughts also originate" (Moisala, 2009: 54).

Some might think that the musical composition should be completely free of the affection zone, the feelings, the references, the crossings, the subjectivities, and everything that is conventionally so-called *extramusical*. In my opinion it is truly complicated, if not impossible to separate these things. My projects are often initiated by "no-musical" images and it takes a long time until I decide how to spread them in a musical manner. Most of the time, these images are complex multisensory constructions: the image of a liquid piano (*Tátil,* 2007), the image of a lagoon (*Lagoa,* 2008), the images of some imaginary beings (*Do livro dos seres imaginários*, 2010), the image of a spinning top (*LAN,* 2011), the image of a city that grows in concentric circles (*Olinda,* 2012), the images of the different states of matter (*Estudo sobre os estados da matéria*, 2012), the image of death (*A menina que virou chuva,* 2013), the image of the trajectory of a small rock launched with a slingshot (*Forquilha, couro e tripa de mico,* 2013), the modulated images of the "temporality of life" and "temporality of the river" (*A terceira margem do rio*, 2014)[7]. What sprouts from experience turn into sonority; the sonority itself is also considered experience.

7Scores and recordings of my works are available on the website http://www.valeriabonafe.com.

A sound image for *A menina que virou chuva*

The death of my niece – Heloísa, to whom the piece is dedicated – was deafening for me. My sound memory of that moment always seemed like the sensation of a clogged ear, as if one goes downward through the hills towards the seacoast, or when one listens to the exterior underwater: some sparse, hazy sounds, barely outlined. The images that I still retain from that day are much more visual. On the other hand, my sister, Heloísa's mother, has always explicated in our talks a very lucid sound memory of everything that she went through that day. Thinking these differences through, I have reached an interesting reasoning: she experienced the loss of her child firstly through listening. The mental images that she produced throughout the 40 minutes of Heloísa's life were essentially stimulated by sounds, since the situation was a C-section surgery and there was a cloth that is usually hung vertically between the belly button and the breasts of the woman. My sister could not see it, only listen to it. On the other hand, on the other side of the glass, I had a global view of the surgery center, but I could not hear. I have experienced the birth and the death of the Heloísa in silence, just with the eyes. Yet my sister has made through it with the ears. My experience was purely visual. Yet hers was essentially acousmatic.

I don't sleep.
I still hear the sounds:
Of my hands beating against the dopamine;
Of the aspirator suctioning my inside;
Of the buzzer of the never used incubator;
Of the weeping of who used to love as I did;
Of the silence that you came in and remained
Of the pain to only see you once.
The sound of emptiness.

(*7 Dias Depois* [7 Days Later], of Daniela Bonafé, 2012 - http://www.danielabonafe.com)

In *A menina que virou chuva* I have freely linked three phases of mourning to the three stages of the cycle of rain. And for each phase/stage I have imagined a sonority. In the first sonority I have associated the phase of *Evaporation* to an initial stage of mourning: the loss, an immense suction and dispersion of energy, the rarefaction, the emptiness, the silence. In the second sonority, *Condensation,* I tried to deal with the concentration of densities, the accumulation, the image of despair, the upheaval. And then, finally, the image of precipitation, the rain, would follow. But the piece did not admit this positive outcome: the closing of a cycle that culminates in a rain that washes. So I went for one cut in this cycle, for an empty space ("*the sound of emptiness"*). And what brings the piece to an end after this emptiness is a sonority that I have called *Depois da chuva.* This sonority even brings some lyricism up, something that could sprout from resignation, from an after-loss serenity. But it necessarily admits the irruption of screams, spasms and memories. Three distinct sonorities that would orchestrate together a sound image a little bit more complex: the image of death.

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39. Hybrid Frequencies: Underground Networks And The International Ra(u)dio Art Show (1978-79)

Yuri Bruscky

Abstract: This work aims to investigate a historical cut of the development of sound art practices in Brazil, articulated through the reference of networked activities developed by mail artists during the 70's that culminates in the realization of two editions of the *International Ra(u)dio Art Show* in Recife/PE, in 1978 and 1979, organized by Paulo Bruscky and Daniel Santiago. The articulation of this exchange network mediated the construction, by these artists, of a praxis based on the ethics of do-it-yourself and a leading role in construction of the cultural environment in which they were inserted.

1 Connecting (sound) utopias

The experimental sonorities that emerged since the mid-twentieth century had as a central issue to break with the repertoire of traditional musical materials, lexicons   and processess. To the predominant musical aesthetic was counterposed a set of aperiodic sounds, often classified as non-musical, captured in everyday life or created in the studio, supported by a broad-based instruments and compositional processes (KAHN, 2001). The aestheticization of these sounds, previously classified as noise, radically extended the musical perception and the field of research and creation of composers and sound artists.

These approaches demanded a symbolic rearrangement that creates a space for experimentation apart from the hegemonic aesthetics and institutions, confronting crystallized modes of production, circulation, categorization and distinctions between different artistic languages/practices. Such aesthetic changes prompted the musical reflection to the listening conditions of these sound materials, be they intentionally produced or perceived in particular environments, combining them with elements and own compositional processes of musical language. Thus, while the traditional models of sound perception undergo a series of transformations, new sensitivities are generated and processed socially.

Artistic practices presented in deliberately ambiguously modes or the imbrication of artistic languages in multimedia works, sound installations, performances and conceptual pieces, catalyzed new forms and aesthetic expressions, deterritorializing naturalized hierarchical senses (the composer authority, the skill and professionalism of the interpreter, the conduct of the public, the concert hall, the specialized audience, fruition modes, epistemological/analytical approaches etc) and extending the spectrum of spaces to be occupied through underground networks structured by the artists themselves.

Articulated by Paulo Bruscky and Daniel Santiago, both editions of the International Ra(u)dio Art Show took place at the Catholic University of Pernambuco, during it's Winter Festival. The engagement of both artists with the international art network is a crucial aspect of the IRAS' articulation. The artists contacted their peers (through a collective call) and traded tapes with recordings to be broadcasted on Radio Club of Pernambuco, a local station, and on the university's radio system. The call was answered by a huge variety of

participants, from different parts of the world, including Maynand Sobral (CE), Álvaro Cardoso (SP), Jomard Muniz de Britto (PE), Josefam Antunes de Macedo (RN), J. Medeiros (RN), Leonhard Frank Duch (Germany/Brazil), Victor Sanches (Colombia), Ulisses Carrión (Mexico), Besson Nakaiama (Japan), Nic Thompson (England), The Audio Players (USA), Rod Summers (Holland), Buster Cleveland (USA), Bartolomé Ferrando (Spain), Ruedi Schill (Switzerland), Robin Crozier (Inglaterra), Larry Wendt (USA), Cesar Toro Montalvo (Peru), Geoffrey Cook (USA) and many others.

Bruscky and Santiago had developed previous experiences with sound works (or mixed media projects with sound operating as a central element), like the Con(c)(s)(?)Erto Sensonial, realized in 1972, in the auditorium of the Faculty of Philosophy in Recife, with 600 colored (yellow, red and green) matchboxes being played by the public according to the color projected on the walls of the theater, glasses and an electronic organ. In 1973, Bruscky performed his piece "Onomatopaico, e Ele Ainda Está Vivo, ou: A Dor do Parto" (Onomatopoeic, and He Is Still Alive, or: The Birth Pain) for tape, strobe lights and voice, with a mummy mannequin on stage, during the 1º Parto de Música Livre do Nordeste (1º Northeast Free Music Birth), in the Santa Isabel Theater, Recife/PE. They also took part on the *VEC Audio Exchange* cassette tape series, initiated in 1978 by the british mail artist Rod Summers.

The works submitted were of various nature, such as absurdist radio drama "Dorothy", produced by Jota Medeiros (RN); conceptual proposals, such as "Position(s) Interpreting(s) Language," by Luiz Guardia Neto (SP) and "I Am An Artist " by Leonhard Frank Duch (German artist based in Brazil in the period); collages, like "MiXturations" made by tropicalist poet Jomard Muniz de Britto (PE), using voice, objects and Brazilian popular music recordings; sound diaries like " Rude Movement ", made by Vagner Dante Veloni (SP) and Fernando Barone (SP), taping sound and visual impressions from the daily lives of both artists (a walk, a daily newspaper); sound poems and pieces exploring the ambiguity of oral language and semantic structures, as in "Eating", by Daniel Santiago (PE), and "Repetition Poem", presented by Paulo Bruscky (PE), to name a few Brazilian examples.

An analytical approach to the artistic strategies introduced by these underground networks implies observe the relations established by them and the structures and institutions that constitute the field of art and music. The symbolic exchange established by these artists draws a variety of signification categories, from which the subcultural community structures hybrid languages, mixing different medias, practices and art categories, establishing particular uses of the mainstream mass media vehicles and formats, giving them new meanings and approaches — disrupting, for example, the Radio broadcast format, creating mediatic utopian "counter-spaces".

Thus, the configuration of these sound practices starts from the reframing of the traditional distinctions between artistic languages, questioning such landmarks, showing their epistemic imprecision, decentering them. Such processes underlie the emergence of a critical theoretical framework in the sociological approach to music, whose character counterfactual boost radically the materialization of artistic processes in social practices, enhancing their relations with power and contingencies that constitute everyday life . Conceived, as pointed out by Lefebvre (2014), as a level at which the mediations and

cultural and political processes are mediated and performatively experienced in the world of life, and from which the subjects act.

The cultural coherence demanded by traditional definitions of music (or musicality) is based on authoritarian principles, since in this ideally built environment, for each element is reserved a rigid classification of uses and formal applications. In this way, the past seems like a safe haven for tradition, beset by the buzz and the dilapidation of its structures by the incorporation of noise as expressive sound matter in the morphology of contemporary sound works.

It is interesting that, for this classicist tradition, musical culture said in it's discourses is securely saved in an idyllic past, which brings with it not the idiosyncrasies of its historical setting, but a set of rites, beliefs and values that should support it. The assertiveness of this memory in the present would allow a vision of the future more stable – because less noisy.

There is, in this context, an implicit distinction between a lexicon of plausible sounds of music education and a set of resquiciais noise - because connected to the world of everyday life, without the very transfiguration of musical aesthetics, as well as a break with the specialized listening models, strongly supported in a hierarchical type of fruition modes.
Put that way, the idea of noise is eminently cultural. More than physiological discomfort (very high or low frequencies can damage different areas of the body besides the auditory, such as the digestive system and heart rate), indicates a break with an order of hegemonic naturalized meanings.

As pointed out by HEGARTY (2007), different cultural and subcultural expressions are categorized under the stigma of being noisy - as distinct from the hegemonic patterns. Disruptive element of an ordered system of hegemonic meanings, noise is articulated by critical inflections on a sound universe properly typified by specific cultural parameters of musicality. Thus,

Noise, and the music that comes from an engagement with it, tests common place notions of hearing and listening, and tries do destabilize not just our expectations of content or artistic form, but how we relate to those, to the point where the most interesting point of encounter might be the loss of controlled listening, a failure of adequate hearing, even if this is only temporary. (HEGARTY, 2007, p.05)

This approach highlights the incipiency of music research that neglects the analysis of other social fields such as political and economic, which, as a whole, structure the material basis that demarcate these sound practices in a particular field as a socially situated instance.

The scope of communicational mediations appears as the instance in which the aesthetic inflections which characterize the expressiveness and the cultural relevance of sound practices are materialized, through an active negotiating process of conceptual meanings and boundaries with the institutions that comprise the field of music.

As articulated by Bourdieu (2003), a field is defined as an instance in which form routines and social institutions that demarcate positions and asymmetric paths to social subjects from the power volume (economic, educational, symbolic) accumulated and played by certain groups or class fractions with certain structures. The intertwining of political and cultural mediations brought by individuals within a particular field involves observing the relationships they established with the scopes that give texture to the lifeworld. Even if diffuse, they gain prominence in everyday practices and shape the way people stand the contingencies surrounding them and the diversity of life forms faced in their trajectory.

2. Resonating hegemonies: ideology, culture and language

The study of experimental sound practices taken over from the perspective of the sound studies, outlines an analysis that encompasses the discourse and institutions that define and legitimize the field of music, without leaving aside the aesthetic aspects and procedures of such sound practices. Its epistemological scope is not restricted to purely formal analysis of music, covering the listening modes, territories and soundscapes, intermedia projects, socio-political mediations involved in the production, dissemination and artistic valuation of sound practices etc (IAZZETTA, 2015).

This way, the localization of the sound practices developed these by artists is given from the re-signification of the traditional differentiation between artistic languages, questioning this differentiation (rules of expertise, mastery, niches etc), counteracting or evidencing its dubious character, des-territorializing them. Such processes of re-appropriation of the senses that were inter-subjectively shared give coverage to the emergency of having a theory referential that was critic on Sound Art researches, which had a contra-factual character pushing in a radical way the opening of the materialization of the artistic processes on the social practices and on the everyday routine, from the relations of these with power and the contingences that constitute them.

The approach of these creative exchange networks taken over in this research was based on a conception of communicative action that seeks, in its various assumed forms, rupture and questioning of verticalized parameters of significance and hegemonic classification in the field of art, and establishment of an inter-subjective mediations field effectively dialogical, guided by emancipatory principles.

The sound practices and networking activities of these artists unveil a universe that creates and expands the underground universe of hegemonic dictates of "good" art and music. An environment where marginalized cultural elements are raised to a level of significance unthinkable in the objectifying structures of "normality" established aesthetic, impelling them to criticism and search for transposing the dominant situation to which they are systematically subjected.

Amid the hyperbolization and segregated nature of the art market, the mail art network stood itself on it's margins, as a political position, opting for the exchange of information as

a main north, scrutinizing thematizations and creative processes seen as irrelevant to the field of hegemonic art, building networks and forming affinity communities around shared interests.

The complex network of practices and established relationships in these mediation fields allow the subject to make specific uses of cultural goods with which one interacts. Raised by Martin-Barbero (2003), this is particularly relevant in the case of these underground networks, to the extent that enables a more accurate perception of their way to interact with the hegemonic cultural traits in the field of art, and how they the they gave new meanings to it in their daily lives and converted it into shared practices.

Their transformations put them in conflict with naturalized cultural and aesthetic traces, standardized, bringing into question the ideal of cohesion in a technical-bureaucratic society. Such aesthetic/political inflections, codified in social practices, expose their anxieties and contradictions in the relationship with the mainstream art world. Placed as a "symbolic violation" of a naturalized order, this critical demands express the ethos of these experimental artistic practices,   materialized through the establishment of a dialogical communicative reason.

The classifications of the everyday world developed by groups or communities constitute a "dominant cultural order" of a given environment. The various areas of life in society are arranged hierarchically and organized by the dominant or preferred meanings. It is used to distinguish between "dominant" and "determined" by the possibility of making sense of a phenomenon from "mappings" within a given social group.

For the dominant cultural order, the clarification of a misunderstanding happens from the reference to the "maps of meanings" of dominance structures, reinforcing preferred semantic domains from formally legitimized discourses. These maps, however, are not closed or inaccessible in the clash of the "class struggle embodied in language."

Even pointing out the absence of a mandatory correspondence between encoding and decoding hegemonic meanings — the first can strengthen, but never impose or guarantee the second strictly from their terms — HALL (2011) identifies three hypothetical positions from which the decoding of a discourse can be taken over: **hegemonic-dominant code**, in which the viewer operates within expected by the terms "communication perfectly transparent", to the extent that dominant codes are reinforced. In this field, there is the professional code, which encodes a message which previously has received a meaning attached to "maps" hegemonic "maps". The technical code reproduces the hegemonic definitions precisely by naturalizing them surreptitiously. The hegemonic definitions associate, implicitly or explicitly, historical phenomena to large totalities and systematized worldviews, assuming "global perspectives" on the issues; **negotiated code**, which gives legitimacy to the dominant definitions, but reserves the critical / analytical capacity to articulate more concerned about the local conditions and everyday life; **opposition code**, which occurs when discourses usually decoded via negotiated assume an openly anti-establishment reading.

The capacity to capture and play sounds from electronic technical devices in everyday life radically reshaped the way individuals and communities relate to the acoustic territories with which they deal on a daily basis, as well as the repertoire of sound materials available

for artistic creation. The traditional base of a musical culture seen as elevated - and the internal cohesion of it, commonly called as a hallmark of Western classical music - can no longer be ensured by external contingencies this dispute by the ability to produce relevant meanings in a particular field, through a privileged locus. It is first guaranteed by a continued discussion of the plane between the poles involved in the process, operating processing, within a particular social group, the aesthetic transformations and cultural mediations.

Communicative practices are characterized as a pragmatic knowledge that allows individuals to participate and interfere in such processes. Besides the empirical judgmentswhat comes into question are gestures, speech acts, textual and pictorial records, statements, actions, social interactions etc. Is this knowledge that guide the imbricated context of communicative practices taken over the world of life (HABERMAS, 2004).

The strengthening of these mail artists through the inflections critical materialized in everyday communicative practices impels them to overcome the limits of an ideally atomized individual in a bubble, from which its "pure" subjectivity relates to the others. It is precisely this constant inter-subjective exchange that build identities and consolidate social practices. The community organized under such terms demand their agents constant exchange and the continued reorganization of these discursive/cultural practices as a form of relationship with the specific dynamics of society, i.e., their conflicts, desires, hopes, frustrations, collective projects and agendas etc.

Breaking with the idealism that conceives reality as a "given" field to be unraveled, raises the perception that there is no access to any "layers of reality" that are not permeated by complex communicative mediations   performatively experienced by active subjects (HABERMAS, 2004). The symbolic exchange established by these artists through — but not only — mail art outlines a range of meaning categories, from which the underground community structure modes of creation and establishes particular uses of cultural heritage and traditional artistic processes, printing Them new meanings through their practices.

Meaning systems are diverse and take shape on specific historical/social contexts, linked to a framework of specific practices. We realize and identify them because they materialize and pervade social practices partially anonymously. The strength of these systems is due to the naturalization and disguised expression of the power relations that they express.

The notion of dispute in the semantic field (beyond the strictly formal discussions) is relevant since the meaning does not reflect the world in a transparent manner through language, but emerges from the distinction between the terms, categories and reference models that classify the everyday life experience and make it to be apprehended and signified by common sense.

Contextual dynamics like these are substantivized by a variable number of factors, including asymmetrical power relations, unequal access to resources and opportunities and institutionalized mechanisms demarcation sound territories (artistic, non-artistic, musical, noisy) from particular interests . The complex practices established in these

mediation fields allow different uses and meanings (often conflicting) of sounds with which actively interact through a listening-in-situation-in the world.

The abovementioned contextual characteristics make it possible to understand the instances in which social actors act and relate to this diversity of sound universes - structured and structuring instances that characterize the processes of interaction and intervention, to the extent that we can identify traces of these social contingencies in how individuals update them in their artistic practices within that network. The contextual elements of these fields are not merely restrictive, but are, in equal measure, spaces of transformation and resistance.

It is from the transformations in the logic of technical rationalization of symbolic mediation fields that establish the statutes of a musical culture regarded as civilized, enlightened (in terms of rationality), in contrast to the noisy practices and "minor music." Bourdieu characterizes this volume of distinctive symbolic from the internalisation of it "by an agent endowed with categories of perception resulting from the merger of the structure of distribution, that is, when known and recognized as something obvious (BOURDIEU, 2003, p.145).

However, pointing out the eminently ideological character of culture is insufficient to understand more accurately the establishment of a plan of distinctions that demarcate positions and asymmetric paths to social subjects, reproducing a inequality situation.. The delimitation of action margins of subjects in these (sound) spaces depends on, imperatively, the volume of power (economic, educational, symbolic) accumulated and reproduced by certain groups or class fractions with certain structures. Perceived in such a way, symbolic systems seem as structured and structuring mechanisms to demarcate the hegemony of the dominant sectors in a field, but also serve as the objective basis for the development of confronting strategies (BOURDIEU, 2003).

The reification of these cultural dynamics is linked rather a socio-economic basis, which will outline the extent to which these changes will be processed socially, as well as the focuses of resistance to the hegemonic system significations, since

Hegemony, then, is not only a successful type of ideology, but can be broken down into its various ideological, cultural, political and economic aspects. The ideology specifically refers to how the power struggles are carried out in the meaning of level and, although this meaning is involved in all hegemonic processes, it's not in all cases the dominant level under which the rule is sustained. (EAGLETON 1997 p. 106)

These "mediated sound spaces" with which we interact on a daily basis impose themselves as significant instances being experienced, reprocessed and delineated as everyday interactions and perceptions of the space in which subjects are immersed. These acoustic universes, such as it is experienced and perceived from the sound practices developed by these artists is not constituted as an epiphenomenon, or through an immanent metaphysical basis, which individuals must lay bare to achieve "true reality" but from a dynamic communicational structure intersubjectively shared in a context of asymmetric distribution of power (LABELLE, 2010).

Such mediations characterize particular types of appropriation and discursive reframing carried out by experimental sound practices. Repositioning thus conventional lexicons materials and musicalizacion processes, resignifying them symbolically, against the apparent naturalness of practices and ingrained habits in everyday life, so that these instance demarcate a scope of interaction with the society codes of in which they live, giving new meaning to them and placing them in circulation in a particular way.

Artistic practices within this network materialize in the reality of lifeworld intersubjectively shared, but this statement finds a series of obstacles related to the set of available positions and trajectories within society, as the symbolic forms are articulated by specific practices and mediations, giving a phenomenon its distinguishing features and make it be perceived socially in an equally particular way.

This is not to limit the analysis to problematizations on the effects of the hegemonic references in a particular field in its agents, nor just to observe what they do of these hegemonic references, but to understand how an instance and another influence each other; the negotiations between both and contradictions observable in this process. The ability to give meaning, put that way, it is characterized from that relational and communicative dynamics, and not as a self-referential structure.

Such perspective, far from implying in a reductionism that subsumes, in the study of sound practices, the preoccupation with its internal structures to the benefit of a hypertrophied value given to economic and production instances as the primary basis of referral, reiterates the need to search the dialectical correlation between both instances, to extend the analytical perspective.

In contrast to atomized analysis regarding the cultural field, it seems more relevant an approach capable to realize that the social organization of culture,

as a meaning system realized, is embedded in a complex series of activities, relationships and institutions, only some of which are manifestly "cultural". At least for modern society, it is a more efficient use of the rhetorical sense of culture as an overall lifestyle. This sense, arising from anthropology, has the great merit to point out a general system - specific and organized practices, meanings and values played and encouraged. It is in powerful principle against the habits of individual studies, historically developed within the capitalist social order, which assumes, in theory and in practice, an "economic side of life," a "political side", a "private side" a 'leisure side "and so on. (WILLIAMS, 1992, p.208)

The dominant cultural traces in a complex society are not a monolithic structure. Rather, they are constituted by imbricated layers of meanings that reflect the diversity of interests and benchmarks of social groups (ethnic, social, religious, generational etc). Given the fragmented nature of cultural dispute, it can't be boiled down to a binary logic of confrontation. The concept of culture as a structure (abstractly) unified ignores the multiplicity of cultural traces in society in a certain historical period. It is important to consider the dialectical relationship between the configuration of the routines and social institutions that reproduce the discourse of culture in its hegemonic forms and the forms of subordination and resistance to these processes.

In a mediation instance, a variable set of precepts and conventions give reference to the individuals involved in it. Included in this regard are institutionally standardized rules, such as legal or labor codes regulating diretivamente a field of action and specific social interaction - and that do not have absolute nature; that is, it depends on the subject's will, even at the risk of sanctions. There is also another set of implicit guidelines, more imprecise and open to interpretation scope. A particular kind of empirical knowledge, already naturalized, like the observable patterns of behavior in environments with distinct "procedures" already naturalized (how to behave in the audience at a classical music concert hall and a lounge with rock bands and djs) and typifies this distinctive process.

Once inserted in historical contexts, cultural phenomena are constantly subjected to measurement parameters of the subjects, as Thompson (2011) characterizes as "valuation processes." That is, instances through which they add specific value types, suitable for different ways for the actors involved.

Such guiding schemes, however, have no capacity to positivate objective determination. By appropriating such bases, the subjects change them in the course of its appropriation and interpretation reframing. These are not, as in certain types of economicist reductionism, mechanical operations of structural determination and tacit reproduction of hegemonic normative imperatives in a given context.

3. Conclusion: Notes On Networked Cultural Practices

The counterfactual premises articulated by these artists took shape through the factuality of their own creative practices, tangling over its negotiations with institutional rules and routines. The relevance of the design aesthetic counter-factuality of this underground network gains strength in the raised questions and exchanges established with other partners; in their ability to mobilize forces for the evaluation and resolution of objective questions and to deal with the objections and concrete impediments to their action.

It is important to emphasize the communicative elements of culture, that is, its dynamic and procedural character in the production of meanings, not just in the volume of information circulating between two points (the sender binomial/receiver) to be captured and decoded, revealing the horizon mediations that are transformed by the emergence of new technical devices, but also constitute and change them. Extracted from the analysis of the communication effects on (purely) informational, the perception of uses and practices articulated in the midst of the appropriation of cultural goods gives greater emphasis to the dynamic process of symbolic exchanges carried out by subjects historically situated who think and act in different ways.

In contrast to the linear approach of the communication process, face to traditional aspects of informational research, interposes an approach of communicational mediations that breaks the verticalizing principle adopted by the hegemonic culture, with its specialized language and self-referential, to the extent that potentiates its problematization capacity to build a critical and dialogic mediations plan. This structural change is inseparable from this

logic of conflicting interests, to reflect on the balance of forces arising from a constant search for equity, which confronts the unequal distribution of symbolic power.

Such referential emphasizes the relevance of aesthetic problematizations located in confluence points between the discourses and symbolic goods commoditized by hegemonic sectors of the field of art and music and those connected to a counter part of dissentce and criticism . It's equally important to consider the appropriations process of symbolic production of these sectors.

Being an artistic manifestation guided by dissonance (both esthetic and political), these experimental practices gives a kind of "counter-vision" of the mainstream art world, supported on its own references of signification. Because of its own visceral nature, this counter-hegemonic culture, based on the do-it-yourself ethos, carries with itself the potential of resistance.

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