

# Theoretical Frameworks in Brazilian Electroacoustic Music

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**This article is the final stage of seven years of research dedicated to understanding the theoretical backgrounds of Brazilian electroacoustic music in which a significant amount of data was gathered from a series of questionnaires and interviews with Brazilian composers. Our research focuses mainly on the influence of what we have called the historical matrices: *musique concrète*, *elektronische musik* and computer music. We were able to determine to some extent how much each of these matrices weigh on the poetic and *poiesis* of the Brazilian electroacoustic production. We were also able to shed some light on how (and if) Brazilian composers relate to these matrices aesthetically and if their relation to them is merely technical, as well as trying to understand how clear cut the borders are between these two aspects of musical creation. The concepts of *oppositional culture* (Ogbu 1978) and *established and outsiders* (Elias and Scotson 2000) also helped us understand the dynamics between academia and a certain anti-academic stance seen in some composers of the genre. Using these same concepts, we elaborate, in a final note, on some brief comments about a newer generation of composers who, due to various aspects, were filtered out during the early methodological stages.**

## 1. INTRODUCTION

This article contributes to the sparse historiography dealing with electroacoustic music in Brazil, which contains studies by José Maria Neves (Neves 1981: 188–91), Igor Lintz Maués (Lintz Maués 1989) and Luís Roberto Pinheiro (Antunes 2010: 17–61). However, it differs from these previous studies due to the methodological aspects employed and the fact that we do not seek a factual narrative of the events and names that compose the Brazilian scenario, as will be explained further on. It represents the final step of a research initiative which started several years ago and benefits from previous writings dealing with the preliminary findings of our enquiry. These provisional texts were written in Portuguese and published in periodicals and proceedings of meetings held in Brazil. The present study thus complements the previous findings with new data obtained recently, representing the conclusive discussion of this initiative. It is also the first article related to this enquiry to appear in English and will hopefully help shed light on the subject for the English-speaking community

of electroacoustic music enthusiasts (Velloso et al. 2008, 2009; Velloso and Barros 2014a, 2014b; Bezz et al. 2014).

Our investigation began in 2008 and started with a prosaic question in mind. After ten years teaching electroacoustic music composition and related subjects at Universidade Federal do Rio de Janeiro to Portuguese-speaking students, we have had to resort to texts written mostly in foreign languages. At the time, there were few translations of historical texts into Portuguese. Exceptions are Flo Menezes's volume compiling translations of writings by Schaeffer, Stockhausen and others (Menezes 1996) and a highly controversial translation of parts of Pierre Schaeffer's *Traité des objets musicaux*. Both books were out of print and hard to find during that period. We then felt the need to choose a number of fundamental writings which should be translated into Portuguese in order to improve students' understanding of the historical and aesthetic underpinnings of the genre, without the bias of our account and judgement. Instead of relying only on our own preferences, we decided to ask the community of Brazilian electroacoustic music composers which texts they would consider essential for the purpose. However, our curiosity soon evolved into a broader question. Less concerned with pedagogical matters, we then envisaged a survey addressing how theoretical writings of the past and the present have been influencing Brazil's composers of electroacoustic music.

From the mid-1950s, Brazilian composers have practised different types of electroacoustic music. The inaugural experiments of Reginaldo de Carvalho (1932–2013) with *Musique Concrète* in Paris (Antunes 2010: 185); Jocy de Oliveira (1936–), whose 'electronic drama' *Apague meu Spot Light* was premiered in São Paulo and in Rio in 1961 and contains electroacoustic music composed in collaboration with Luciano Berio (1925–2003) (Oliveira 1961: 47); and Jorge Antunes (1942–), in his home-based electronic music studio in Rio in the early 1960s (Antunes 2010: 135), announced the broad aesthetic spectrum encompassing Brazil's early electroacoustic music production. Later, ventures into mixed music, live electronics, multimedia and computer music attracted a growing number of composers.

In recent years we have witnessed a wide variety of musical practices – from pieces on fixed media to works involving free improvisation with electronics and sound art installations (whether they are sheltered under the generic label ‘electroacoustic music’ or not) – which relate to various theoretical frameworks.

So, the production of electroacoustic music has been spreading widely across Brazil, in various regions of the country, supported by studios or university laboratories linked to the main public institutions or by personal studios maintained by the composers themselves. Its presence in contemporary music events has been growing and the number of composers increasing. This expansion, however, has not been accompanied by an effort to map the main theoretical influences that characterise the genre, and very little has been done to help understand the aesthetic bases of the various kinds of electroacoustic music practices developed in Brazil. These theoretical frameworks have remained obscure and are barely discussed, even by the very composers who make use of electroacoustic resources.

Thus, our aim became one of shedding light on these theoretical frameworks, stimulating the debate and the renewal of theoretical reflection among the Brazilian electroacoustic music community. Additionally, we believe that our research efforts could also stimulate the renovation of curricular and bibliographic parameters of the various electroacoustic music-related disciplines currently taught in universities across Brazil. Therefore our inquiry could eventually feedback into our initial pedagogical concerns.

## 2. METHODOLOGICAL ASPECTS

### 2.1. Initial hypotheses

We set out our investigation with two hypotheses in mind.

The first hypothesis assumed that knowledge and dissemination of the major historic theoretical works of the field (related to *musique concrète*, *elektronische musik* and computer music) – which we named ‘historical matrices’ – would still be superficial among Brazilian composers. This would be due to the difficulty in accessing original literature published abroad, to the language barrier in the event that texts were available, and to the absence of translations of fundamental texts.

This hypothesis led to a second one: that the local theoretical production was scattered, and where it does exist, it is unorganised and does not have much influence on Brazilian composers. As a consequence, we believed that the creation of electroacoustic music in our country would be based mainly on composers’ direct contact with their working tools, without relation to (or the mediation of) historically established

theoretical frameworks which could ‘guide’ or ‘support’ their experimental drive.<sup>1</sup>

How did we decide to ‘test’ these hypotheses? Before we delve into this discussion, we must first make clear what we mean by theoretical frameworks, by a working concept derived therefrom, which we call theoretical contributions, and by the meta-category ‘mediation’.

### 2.2. On theoretical frameworks, ‘mediation’ and theoretical contributions

We have defined theoretical frameworks as a set of concepts that support, guide or dialogue with composers, helping them create the conditions of possibility of their particular poetics, being therefore linked to what is classically called the *poietic level*. Our approach was initially related to two fundamental paradigms involving the notion of *poiesis*: one related to the writings of Martin Heidegger (1977) and another based on Jean Molino (1975). In this sense, referring to *poiesis* served as a means to draw borders (or even to mitigate limits) between theory, concepts and possible technological resources on the one hand, and the creative and compositional act on the other.

During the compositional act, there is contact with concepts that feed the creative impetus. Additionally, technological and technical apparatuses as well as emotional and psychological motivations are also present and configure the poetic level. In this sense, theoretical frameworks constitute *poiesis*’ feeders, although they are not the only instigators of this process. They stand therefore as factors that, in articulation with the creative impetus, help cause a work of art and are converted into music.

In addition, theoretical frameworks are *mediators* between the composer and sound. In fact, even what we call the ‘creative impetus’, far from being a single instance or a single blow, consists of a sometimes intermittent series of attempts, experiments and choices of variable proportions and consequences. Like any mediation, they should not be understood as a simple ‘neutral’ tool, but rather – though commonly regarded as something similar to a pair of tongs, tweezers or a mechanical arm that simply extends the length of our own arm – mediations need to be thought of as something that ‘translates’ or ‘filters’ what passes through them. The difficulty resides in the fact that we frequently forget this operating logic when constructing our explanations about the world. We tend to consider that mediations could be erased and replaced

<sup>1</sup>This assumption somehow mirrored our own initiation to the genre in the mid-1980s, which was done through the direct contact with the tools themselves (first analog equipment and soon after with digital devices) without the mediation of any corpus of theoretical writings, which were hard to find in Brazil at the time.

by something which supposedly is the thing to which they refer.<sup>2</sup>

As for theoretical contributions, we have defined these as a set of concepts, systems of classification, methods of analysis, programming environments or even techniques used in the production of musical works. This definition was coined having in mind the specific characteristics of what we called the three ‘historical matrices’ of the genre (musique concrète, elektronische musik and computer music). In this sense, the knowledge of the varied contributions would help in the understanding of objects, phenomena and processes that distinguish the field under investigation. Therefore, it was important to differentiate theoretical references from theoretical contributions. The first category acts as a source of concepts, while the second is a set of heterogeneous tools used by composers. As a consequence, there is a relation of continuity between them – the first category gives birth to the second, while the use of the tools listed in the second category reveal the influence of the theoretical references.

The two notions are somehow also different in respect to that which they embrace and in relation to the moment of their incidence in the life of a work. Thus it is possible to understand theoretical contributions as relatively more comprehensive diachronically, while ‘theoretical references’ would be more relevant when a piece is being conceived. However, it is difficult to sustain a clear-cut differentiation between the two, for they may be interchangeable in the work of an artist.

In this sense, the notion of mediation allows the operationalisation of both categories as active *enablers* of a work, without losing sight of their concrete role, but without over valuing their differentiation. As we have said about mediation, from the researchers’ viewpoint these categories act as hooks that allow us to grasp the phenomenon of musical creation. From the composers’ standpoint they refer to each element configuring something that fertilises, guides, shapes (and is shaped by) or filters (and is filtered by) from what is already brought previously and from what it has to offer according to composers’ own perspective when starting to think in a new work.

### 2.3. On questionnaires, interviews and oral history

Our investigation has been based on the memory and accounts of Brazilian composers who have practised the electroacoustic music genre at any one stage of their careers. Composers were approached through questionnaires and interviews. In this way, methodological subsidies from the field of oral history were of great value during the research process (Meihy 2005).

<sup>2</sup>Our notion of *mediation* is highly influenced by the works of Ann Swidler, Antoine Hennion and Bruno Latour (see: Swidler 1986; Hennion 2007: second part; Latour 2007: 91ff.)

Two questionnaires were distributed. Both started with a series of questions concerning basic personal and professional data (date and place of birth, places of study and work, number of years acting as a composer, nature of creative output, etc.) The first questionnaire aimed at mapping the influence of theoretical writings related to what we regard as the three main historical matrices of the genre (musique concrète, elektronische musik and computer music), while the second questionnaire was intended to reveal which recent theoretical contributions – related or not to the historical matrices – are relevant for Brazilian composers today. The first questionnaire was strict and guided composers through a series of multiple choice questions and answers, although frequently allowing space for complementary information.<sup>3</sup> The second questionnaire was purposefully open, therefore letting composers declare freely which newer theoretical contributions were relevant to their work.<sup>4</sup>

Composers were selected upon their appearance in a number of databases, publications and events related to contemporary music, such as the *Bienais de Música Brasileira Contemporânea* (a biennial series of contemporary music concerts), *MUSICON CDMC/UNICAMP*, *Sociedade Brasileira de Música Eletroacústica* (SBME) and publications dealing with the history of Brazilian music (Neves 1981; Mariz 2000; Cacciatore 2005). The first questionnaire was distributed in 2010 to 64 composers, of which 45 responded (70%). The second questionnaire was distributed in 2014 to 68 composers and we obtained 33 responses (49%). The decrease in the numbers of responses was already expected due to the nature of the second questionnaire, which is rather more laborious to answer than the first. After the analysis of both questionnaires, we decided to further interview four composers who represented contrasting aspects of the community in order to clarify certain points. These were conducted either in person or remotely, through Skype, and the answers were treated anonymously.

### 3. WHAT DO THE ANSWERS REVEAL? (1)

The answers to the first questionnaire reveal that our sample is largely homogeneous: about 50% are in an age range of 40 to 60 years old; 62% have been composing for more than 20 years; 83% are directly connected to universities in which 62% of these are teachers. The nationality of the respondents is mainly Brazilian, and only four of the composers are foreigners who live in Brazil.

<sup>3</sup>See [www.academia.edu/8899888/Questionario\\_Matrizas\\_Historicas\\_da\\_Musica\\_Eletracustica](http://www.academia.edu/8899888/Questionario_Matrizas_Historicas_da_Musica_Eletracustica).

<sup>4</sup>See [www.academia.edu/14855556/Questionario\\_Contribuicoes\\_Recentes](http://www.academia.edu/14855556/Questionario_Contribuicoes_Recentes).

The distribution of reading material within the historical matrices revealed itself to be very homogenous. The most cited theoretical works are as follows:

1. Musique concrète:

- *Traité des objets musicaux* (Pierre Schaeffer) – 43%
- *Solfège de l'objet sonore* (Pierre Schaeffer) – 36%
- *Guide de l'objet sonore* (Michel Chion) – 32%
- *À la recherche d'une musique concrète* (Pierre Schaeffer) – 26%

2. Elektronische musik:

- *Die Einheit der musikalischen Zeit* (Karlheinz Stockhausen) – 22%
- *...wie die Zeit vergeht...* (Karlheinz Stockhausen) – 22%
- *Zur Situation des Metiers* (Karlheinz Stockhausen) – 18%
- *Stockhausen: Conversations with the Composer* (Karlheinz Stockhausen and Jonathan Cott) – 18%

3. Computer music:

- *Musiques Formelles* (Iannis Xenakis) – 34%
- *The Computer Music Tutorial* (Curtis Roads) – 26%
- *The CSound Book* (Richard Boulanger) – 26%
- *Synthesis of Complex Audio Spectra* (John Chowning) – 24%

Regarding musique concrète, when considering works written about Schaeffer and not by him, *Guide* stands out against the others, being mentioned by 23%, with *Entretiens avec Pierre Schaeffer* being mentioned by 5%, in addition to 7% mentioning isolated works indicated by the respondents themselves and 6% for no work at all. Considering that the numbers for 'others' and 'none' are not expressive when compared to references made to *Guide*, and even less when compared to the theoretical works by Schaeffer himself (see above), it is clear that the access to his legacy occurred through Schaeffer's own theoretical work. These numbers also indicate the importance of musique concrète, especially when compared to the numbers concerning elektronische musik.

Concerning computer music, the number of citations was high in the first questionnaire, but still lower than those of musique concrète. However, while they remained high in the second questionnaire, the numbers for musique concrète decreased. The expressive presence of computer music in the second questionnaire draws our attention given that we consider it to be a historical matrix, and this could be an indication that, for many of the respondents, computer music occupies a posterior place in chronological terms and still endures in present times, unlike the other matrices.

It is worth noting that, even though much is known as has been read on musique concrète, computer music leads with a reasonable advantage in terms of what

respondents claim to be the biggest influence on their own production: approximately 56% claimed that the influence of computer music was high, while only 45% claimed the same on musique concrète. Therefore, the numbers for computer music on medium or lower influence are smaller, around 12% for each case, whereas musique concrète falls under 21% and 25% for low and medium, respectively.

As for elektronische musik, 41% of the respondents claimed that its influence was low. What is significant here is that this does not seem like a lack of knowledge, as one could imagine, given that about 66% of the respondents claimed to have medium or high knowledge of the theoretical legacy of this current (43% medium and 23% high).

The better-known theoretical legacy seems to be of musique concrète, with 46% claiming a deep knowledge and only 10% claiming low knowledge. This seems to be a reflex, albeit late, of the importance of the French cultural matrix on the Brazilian intellectual tradition.

Concerning the theoretical contributions that each current has to offer, we selected four main contributions for each matrix. In the respondents' results, we encountered in the leading positions one contribution from computer music (Digital Sound Synthesis Techniques) and one from musique concrète (Sound Object), both with 95%. In relation to elektronische musik, 86% of the respondents marked Analogue Sound Synthesis Techniques. When we look at the remaining contributions from each matrix, elektronische musik's smaller penetration is quite clear given that the three other contributions by this matrix scored under 65%, with two of them falling under 50%. This is not the case with the remaining two matrices. With the exception of one contribution from computer music (Computer-Aided Algorithmic Composition, with 62%), all other contributions from musique concrète and computer music scored 70% or above, while computer music was the only matrix to have two contributions above the 80% mark (Digital Sound Synthesis Techniques with 95% and Spectral Analysis Applied to Musical Composition with 84%).

Another relevant aspect revealed by the answers to the first questionnaire worth mentioning in this study is the fact that original texts and their translations were cross-checked by 92% of the respondents, a fact which *could* put in doubt our initial motivation of translating some of the historical texts into Portuguese. We say at this stage that it *could* put in doubt our initial motivation' if the effort of translating historical texts did not target those who are beginning their musical academic studies and who speak Portuguese only. They differ from musicians with more experience, background and academic titles, who constitute the majority of respondents to the questionnaires and who demonstrated having no problem in dealing with texts, books and



papers written in foreign languages, according to our findings. We shall go back to this discussion later in the final section.

On the second questionnaire, the first aspect that caught our attention was the high number of recent theoretical contributions cited. Among techniques, authors and theories we encountered: Sampling, Plunderphonics, Remix; Soundscape Studies (by R. Murray Schafer and Barry Traux); SuperCollider (programming environment); Semiology; Spectromorphology; Vilém Flusser, Friedrich Kittler, Régis Debray, Bernard Stiegler; Mario Pedrosa, Ronaldo Brito, Rosalynd Krauss, Charles Harrison; Philippe Dubois, Georges Didi-Huberman, Philippe Lacoue-Labarthe; C.A.C.; Linguistics/Semiotics/Phonetics/Phonology; Evolutionary Computation; Real-time programming; Dynamic programming and optimisation; Aesthetics, poetics and philosophy (of music) – writings by twentieth- and twenty-first-century composers; Applied concepts of mathematics and physics (acoustics) – psychoacoustics, tuning systems, spectral analysis; Ecological cognition; Interaction design; Analytical and compositional theories by Trevor Wishart; Compositional techniques and theories by Helmut Lachenmann; Musical heuristic studies; Studies on the spatial perception of sound, spatial management in immersive systems and architectural acoustics; Interdisciplinary Involvement and Community Spaces (I.I.C.S.); Sound interventions in public spaces; Sonic experience (Cresson, Grenoble); Polytonality; Dodecaphonism and Serialism; Atonality; Tonality; Digital music (made for computers); New techniques for sound processing and synthesis (various authors); Development of musical programming languages (e.g. CSound); Noise music; Improvisation and Live Electronics.

According to the respondents, 52% of their contributions are anchored on the historical matrices, while 37% of them are actively declared as not related to the matrices. In an effort to comprehend how these references relate to the enlarged field of musical knowledge, we estimate that 54% are related to musical theory and musicology, while 85% may refer to what we call mediators, a notion that ranges from software to live electronic devices and apparatus, as well as the relation to space itself.

A first reading of these responses revealed a certain discomfort from the older generation in indicating the bibliographical mode as a form of accessing recent theoretical contributions. Such discomfort was already insinuated in the first questionnaire, when we conjectured that the way in which this generation relates to the historical matrices is one of peers, considering that the older respondents nurtured their creative practice through direct experimentation with the resources at their disposal, helping to cast a new field. This problem now becomes visible in their difficulty in expressing pertinent ideas in bibliographical terms. The loose citation of authors, without mentioning specific works

that marked them, could be related to contemporary intellectual culture, but could also be connected to the fact that reading was not a prioritised form of access. Thus, these authors are much more beacons or references than people who created specific works that somehow marked those who cite them. This is in contrast to the newer generation, whose formation occurred less through 'direct' artistic experience and more through the mediation of university life, formal courses or even by exploring and tinkering with software, computers and Internet websites.

Regarding this younger generation, we conjectured if this was due to an *oppositional* feeling. At this point, a small digression from the presentation on how we interpreted these responses becomes necessary.

### 3.1. Oppositional culture, established and outsiders

First, we sought out the origins of the notion of *oppositional culture* and investigate the ways in which it was used. The concept emerged with a specific goal concerning racial relations in schools in the United States during the 1960s and 1970s. Seeking to understand the differences in school performance between individuals from African American communities and groups seen as dominant in that society, anthropologist John Ogbu (1978) suggested the hypothesis that some black people deliberately avoided good grades in exams because they saw this as an act of submission to the white ideal that North American society had as a reference in its constitution, which they called 'acting white'.<sup>5</sup>

This does not seem to be the case with our sample or the case of those who may have been left out due to our filter and who practice the genre in Brazil. But, if we open up the notion of *oppositional culture* from a specific concept on racial relations to broader terms, we encounter another possible manner to treat our problem by reading the classic study by Elias and Scotson in their book *The Established and the Outsiders* (Elias and Scotson 2000). While studying a community in England where two new groups of residents settled in an old neighbourhood, the authors noticed that there were differences in the crime rates in the areas inhabited by the three groups, and that the two groups whose areas had lower crime rates stigmatised the inhabitants of the third area. However, during the period in which the research was conducted the crime rates levelled out, but the groups perception regarding the previously problematic group did not change.

In order to explain this dynamic – which can be seen in various situations of human relationships – the authors used the notion of *established*, represented by

<sup>5</sup>For further and recent discussion on Oppositional Culture Theory, see Mocombe and Tomlin (2010)

the older group in that context, and *outsiders*, consisting of the stigmatised group that was seen – and many times understood themselves as – lacking a fundamental trace that characterised the group who is taken as a reference, that is, the established. The existence of some form of interdependency between the two groups is, therefore, crucial for the dynamic between the established and the outsiders to exist, otherwise there would be nothing that maintains the group seen as inferior tied to the classifications it receives for the group who holds more power. Put another way, it is only because something binds them together on some level that being taxed as inferior can have some significance to those who are tainted so.

In our case, what we have is a whole other universe of problems and questions in which it makes little sense to think in terms of one culture directly opposing the other with the objective of validating different forms of being in the world, or defending ways of living contextually linked to a possible social identity. It is certainly possible to think of this problematic in terms of an oppositional culture in relation to a dominant one, and an exercise in this train of thought would most certainly generate rich and interesting perceptions. However, it is necessary to evaluate if what is gained compensates for the problems that arise when we allow this issue to be treated in the key of deliberate conflict and rights between groups that, many times, resort to the same ‘signal inversion’ when positioning themselves in relation to other groups in their context.

A good entry point to this investigation, therefore, is to think of the terms in which the relation between these two groups occurs. In order to simplify the exposition of this argument, let us think of the division between a group, who will provisionally be called ‘native’, who can be qualified as ‘academics’ and those who position themselves outside, the ‘non-academics’, a term used by one of our respondents.

This division by itself is problematic given that there is some transit between them, but, for now, it is more important to ask if there is in fact an opposition between one group and the other, or, at the very least, from the ‘non-academic’ group in relation to the ‘academic’ group. Is there some kind of interdependency or binding between these two groups that would enable a relationship of established and outsiders?

These are questions from which it is possible to begin an investigation departing from the theoretical frameworks mentioned above – *oppositional culture* and *established* and *outsiders* – more as ideal typologies in the Weberian sense (Weber 1996: 108ff.) than as explanatory models. It is by comparing the ways in which these models operate in the reality being investigated that a productive form of working with these theories, external to the object in question, may arise.

An exercise in reflexion starting from our own ‘place of speech’ can be quite revealing not only for the

reasons why the ‘non-academic’ group is not contemplated in our investigation, but also to shed some light on the two positions here in question. Our second questionnaire was more open in the sense that textbooks and compositional currents were not listed so that the respondents could mark the ones they were familiar with and inform how familiar they were with them. Instead, taking into account the enormous number of possibilities available this time, we opted to leave blank spaces where respondents would inform us what they judged as relevant among their influences.

Even if we take into account the higher ‘flexibility’ of this questionnaire, which allows for each respondent to indicate what marked him, the questions are focused on reading (as opposed to listening, interacting or other forms of knowledge) and turned towards bibliography. In addition, this way of thinking by itself, by inquiring what and in what measure was read or is known, follows a model that can be closely related to Intellectual History, where works communicate with other works, highly influential on the Western academic way of organising History and the ‘evolution’ of the arts (Gombrich 2000; Bourdieu 2001; Skinner 2002). It is important to observe, therefore, that inquiring on the degrees of influence of something is revealing of a form of thinking that tends to implicitly take more seriously – and, therefore, value – according to the deepness of knowledge on a certain subject that one possesses. ‘Looser’ forms of relationships to the material or theme seem, in contrast, to mark or even define the forms of acting of the ‘non-academics’ about which our respondent spoke.

#### 4. WHAT DO THE ANSWERS REVEAL? (2)

There seems to be a ‘theoretical leap without words’, as stated by one of the respondents who was later interviewed, that relates to a form of anti-theorisation seen in various other instances. This appeared in the first questionnaire through the older generation in their ‘direct contact with the material’, in the doing based on pure and simple experimentation with the medium, using magnetic tape, manipulating, etc., and emerges once again through sampling, plunderphonics, remix, noise music, improvisation, live electronics, *gambiarra*<sup>6</sup> and hacking.

It is interesting to see that, using our previous division into three generations, the central generation – central

<sup>6</sup>*Gambiarra* can be translated literally as ‘workaround’ and has been used to describe various types of audio and visual creation. In this context, it refers to forms of manipulation similar to audio hacking and circuit bending. However, the use of a term in Brazilian Portuguese instead of one of many possible consolidated terms in the English language used inside Brazil seems relevant. It would be dishonest on our part to attempt to translate such an idiomatic term chosen by the respondent given that uses of consolidated terms indicate, to some level, a filiation to certain ways of thinking.

in two ways, by being the ‘core’ of today’s Brazilian electroacoustic music and by being chronologically between the first and the most recent generation – seems to be the one where theory has more strength than direct experimentation with the material. It is as if the third generation has been brought back to an experience similar to the first generation, albeit in a different territory, by having in front of them new mediums, methods and materials to be explored.

One can clearly see that, in the intermediate generation, something that could have a certain proximity with this (such as spatial designs, mentioned by one of the respondents, or architectural acoustics, mentioned by another) is done in a less experimental or exploratory perspective. There is a field of study with reference to the scientific literature and a general preoccupation with theory, acoustics and a consistent and encompassing view that is not so apparent in younger composers who offered references such as remix, noise or *gambiarra* in their answers.

It is also significant to note that one respondent talks of synthesis and audio processing techniques or CSound, for example, but states that this influence is purely technical and that there is no interest in aesthetical issues of contemporary music: ‘Once again, the influence is purely technical. In general, I am not interested in the music theories/aesthetics of electroacoustic music or of contemporary music in general when it concerns my activities as a composer.’

We do not doubt that, but, as we know, techniques suggest aesthetics. They leave marks on things. We have here an argument that could be said to be general, even philosophical, in which when one does music that proposes to be contemporary, there is already an aesthetic embedded in the very act of making music, an aesthetics that responds to the world around it. More importantly, composers learn the techniques they employ from someone, and that someone teaches by producing sounds. Therefore, it is difficult to believe that no forms of creation will emerge from this contact or that the person learning will not be aesthetically influenced. The influence may be purely technical at a first moment, but the manner in which something is learned may embed profound aesthetic suggestions. Considering that the act of electing something you wish to learn already presupposes some level of interest by itself, it is clear that the separation between aesthetics and technique does not go as far as it may seem.

Still on the subject of aesthetic references, there is another interesting point. A reoccurring theme among the answers was the mentioning of other cultures or other musical repertoires as a kind of source where suggestions productively distanced from the Western tradition of twentieth-century music may be found. To put it bluntly, music of other cultures offer other aesthetic references, and we found explicit comments such as: ‘the study of music from non-Western cultures

associated with empirical musicology has been of great importance to my music, for example new models of musical organisation, of parameters selected for the construction of sound objects, and of aesthetic orientations’.

Together with this we note that, when mentioning Charles Sanders Peirce, a composer wrote that the author’s writings provided ‘the fundamentals for the overcoming of theories that guided musical production highlighted during the post-World War II avant-garde, offering efficient alternatives and new fields of musical exploration that can be applied in a very fruitful manner to music’. There is an interesting point of contact in the willingness to break with previous references that are seen as exhausted, even in relation to the avant-garde, which evidently has a certain dose of irony because it was precisely the avant-garde who most clearly articulated this kind of position regarding aesthetic choices.

From our point of view, the fact that the answers are so broad and multifaceted is in part a symptom of the exhaustion of the avant-garde. This is nothing new, of course. What is important here is to perceive that this crumbling and this search for references in other cultures and repertoires are tied to the avant-garde’s own exhaustion. In general, Brazilian musicology has tended to group this universe of issues under the umbrella term ‘post-modernism’. The irony is that the avant-garde made the same gesture of searching for sources in other cultures, as was stated above, and, however, everything that the avant-garde produced from that tends to be seen a posteriori as part of a Western tradition that now is sought to be avoided.

In this sense, it is significant that a respondent articulates a train of thought that is exactly the same as the avant-gardes’ when asked on the ties between referential data in his answers and the historical matrices:

I do not consider this to be related to the ‘historical matrices’ [here understood as the avant-garde that preceded my generation] in the sense that it is precisely a search for new alternatives that can extend in a substantial way the historical models received [meaning, what we can name the ‘historical matrices’]. In this sense, the historical matrices received are included as a reference to be expanded by these new compositional alternatives in the sense that the paths of empirical investigation here proposed are not redundant to the empirical models of the historical matrices.

## 5. FINAL REMARKS

Our endeavour, which started seven years ago, comes to an end. During this process, we were able to shed some light on the theoretical references that have fed the production of electroacoustic music in Brazil. The composers captured by our filter may be considered as

established and with strong academic links, even though many of them keep a non-conformist flame burning and seek to put themselves in constant movement.

Our first hypothesis was not confirmed and it became clear that Brazilian electroacoustic music composers are not only highly influenced by the historical matrices but also have had significant exposure to fundamental texts of *musique concrète*, *elektronische musik* and computer music. As mentioned earlier, we therefore questioned our initial thoughts on the translation of fundamental works to Portuguese due to the original texts and their translations being cross-checked by 92% of the respondents. Thus, contrary to our initial hypothesis, the data collected from composers in our first questionnaire shows that the field of electroacoustic music seems to be highly grounded in theoretical knowledge.

This statement led us to believe that our second hypothesis – that the local production was sparse and not very influential – would also be refuted. But, because most of the theoretical references mentioned in the second questionnaire were not local – there were only a couple of self-references – it has also become clear that, as predicted originally by our second hypothesis, local intellectual production is not influential among Brazilian composers. Even composers in the central part of our age group, whose *modus operandi* is significantly more academic, rely mostly on references outside Brazil.

The concepts of *oppositional culture* and *established and outsiders* helped us understand a certain discomfort towards academia found in the extreme zones of the age group. Pioneers in the genre as well as newcomers have a certain oppositional feeling towards academia, and craft their technique in more direct and empirical ways when compared to the middle range of the age group.

As our research reached its final steps, we realised that our filter did not capture a contingent of large and growing young creators. These young people have been gathering in places such as Audio Rebel, in Rio de Janeiro, and Ibrasotope, in São Paulo. These are places outside the musical academic universe and, even though many young university students (from music as well as other disciplines) perform there, these places can be characterised by an environment of non-academic experimentation, where various musical genres are practised – from popular music, electronic or not, to free improvisation.

How do these new musicians fit within electroacoustic music history? Are they even part of that history, and, if not, is this deliberate or merely circumstantial? Is it worth translating the so-called historical texts or transmitting the local theoretical production to a group of young artists who seem to reject the notion of the electroacoustic genre as being

‘academic’ and who also seem to reject the very notion of academic knowledge? These are questions for future research, and cannot be answered adequately at this time. Soundwise, many elements of the historical matrices are present in Rio’s burgeoning scene, but the musicians’ own discourse towards their tradition remains unknown, at least to us. Our best guess, at this moment, is merely that electroacoustic music may have outlived itself and its elements are now part of experimental genres that are born, raised, and continue to exist independently.

The end of our effort, therefore, points towards incompleteness. In this sense, we understand that our approach is centred on the electroacoustic music that had been created in Brazil since the 1950s and 1960s until the first decade of this new century. We sense that there is now another that is perhaps more dynamic, perhaps more restless, and which happens not at the margins but independent of the established university structures. We do not view this incompleteness as lacking, but, on the contrary, as an incentive to proceed with our investigation with our eyes on the new, which provokes further study.

There is nothing better than to reach the end with a glimpse of a new beginning.

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