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Challenges and Perspectives of Latin American Computer Music

Musical score for 'Paisajes de Iñanga' by Filo Menezes. The score is for a band (banda) and includes parts for 'banda menor-rítmica', 'granda flauta en UT', and 'percusión'. The score features complex rhythmic patterns, dynamic markings (mf, f, pp, ppp), and performance instructions such as 'con grazia', 'poco', 'cresc.', 'ritard.', and 'rit. (si possible)'. The score is marked with 'ca. 72' and 'ca. 117'. The piece is in 5/8 time and is titled 'Paisajes de Iñanga'.

Detailed musical score for 'Paisajes de Iñanga' by Filo Menezes. The score is for a band (banda) and includes parts for 'banda menor-rítmica', 'granda flauta en UT', and 'percusión'. The score features complex rhythmic patterns, dynamic markings (mf, f, pp, ppp), and performance instructions such as 'con grazia', 'poco', 'cresc.', 'ritard.', and 'rit. (si possible)'. The score is marked with 'ca. 72' and 'ca. 117'. The piece is in 5/8 time and is titled 'Paisajes de Iñanga'.

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The Studio PANaroma and Electroacoustic Music in Brazil

Abstract: This article discusses the foundation of Studio PANaroma de Música Eletroacústica in São Paulo in 1994, an institution of the São Paulo State University and one of the most active research and production centers in the area in the world, contextualizing its conception with the internationalist tendencies present since the beginning of modernism in Brazil. To this end, the text discusses the notion of cultural anthropophagy, as formulated by Oswald de Andrade; discusses a brief history of the first initiatives in the field of electroacoustic music in Brazil; and focuses on the historical importance and the particularity of the Studio PANaroma, which substantially changed the development of electroacoustic music in the country. The studio's activities are described, including the founding of the studio's loudspeaker orchestra, as well as the studio's main research activities.

Origins of Electroacoustic Music

With the advent of electroacoustic poetics at the end of the 1940s—with the first experiences of Pierre Schaeffer leading to *musique concrète* in France and of Herbert Eimert with *elektronische Musik* in Germany—there were, among its new adepts, those who proclaimed that instrumental music had come to an end. A few years after the beginning of these new musical genres, not only did instrumental music not die, it moved closer to the new technologies, giving rise to the so-called *musique mixte*, or electroacoustic music combined with instruments. A new compositional making, however, remained as one of the greatest innovations of music in the 20th century—the one better defined by the term acousmatic music, conceived with sounds fixed on support and diffused exclusively by loudspeakers.

Electroacoustic music was then established in this double front and action: acousmatic music and *musique mixte*. But the practice of this double face—the realization of works to be performed exclusively by loudspeakers, on the one hand, and the interaction of new technologies with instrumental writing, on the other—demands a considerable technological arsenal to be carried out successfully, and it can only have continuity if institutions created specifically for this purpose support it.

Brazilian Modernism, Cultural Anthropophagy, and the Internationalist Vision of Art

The birth of institutions is conditioned, however, by the historical, economic, political, and ideological circumstances of the countries where they emerge, and becomes especially problematic in the so-called emerging countries. In the specific case of Brazil, a new country if compared to the old European ones, it is necessary to understand its complex context in order to evaluate what happened with “its” electroacoustic music.

Since the 1922 Week of Modern Art (*Semana de Arte Moderna*) in the Municipal Theater of São Paulo, an event that recently celebrated its 100th anniversary and that established the modernist vision in Brazil, the country has had a cultural concept that is essentially open to foreign influences, without accepting them uncritically. The most common expression for this tendency, *cultural anthropophagy*, was used almost systematically, especially by the writer Oswald de Andrade (1928). This internationalist tendency, open to world culture, was immediately opposed, however, even within the Week of Modern Art itself, by an opposite trend, namely, that of musical nationalism, which would culminate in its reactionary and conservative alliance with the Vargas Era (the populist period that took hold at the end of the 1920s and would culminate in the *Estado Novo* as of 1937, with the Vargas Dictatorship), in which Heitor Villa-Lobos assumed, especially as of 1930, the role of official protagonist in the field of music and avowed supporter of the populism of dictator Getúlio Vargas. Villa-Lobos embodied

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the ideology defended by Mário de Andrade, an intellectual of vast culture who, however, defended tooth and nail the promotion of a Brazilian cultural nationalism, in opposition to the cosmopolitan and avant-garde vision of Oswald de Andrade.

In the clash between these two trends, the scales have historically tipped more to one side, a fact certainly corroborated by the dictatorial period of the so-called *Getulismo* (the Vargas dictatorship). It is true that the anthropophagic movement in Brazil has exerted an influence that should not be overlooked in the cultural context of the country, and it is this very movement that has driven the most innovative currents in the arts on Brazilian soil. But there is no doubt that the greatest influence was exerted by musical nationalism, which extends to the current day and which makes the Brazilian music scene, even today, essentially conservative.

The research and performances of an internationalist, experimental, and avant-garde nature resist the reigning conservatism and echo, in this sense, the Oswaldian anthropophagic movement, but cultural anthropophagy may also bring dangers to which one must also be alert: the risk of a generalized irresponsibility in relation to the assimilation of acts rooted in the history of culture and artistic techniques; the exaggerated belief in the power of cultural absorption as if this were sufficient to create aesthetically well-performed, consistent, and truly forward-looking works; fetishism in relation to cultural miscegenation, leaving the door open, especially in the musical field, to a certain inconsequential cultural hybridism, typical of the diluters who, in opportunistic market strategies, try to contemplate the average taste and gain more followers in the music consuming public, in a mixture of popular elements and pinches of erudition through which neither one thing nor the other is done well.

Whatever it is, the anthropophagic attitude tends, therefore, to a duality: On the one hand, it manifests openness to foreign influences, revealing flexibility of spirit; on the other hand, by assimilating and absorbing what comes to it, the anthropophagic digestion seems to do so irreverently, freeing itself from the weight of tradition. It is as if the swallowing of foreign elements occurred without compromise, which makes the anthropophagic attitude often

resemble the need to get rid of the weight of history. Paradoxically, this posture is similar to processes that typically occur in the universe of urban popular music, whose much more recent history frees it from rooted referential traces. In contrast to popular music, however, cultural anthropophagy has always acted in the opposite direction of all fads, tending towards the pole of innovation, invention, and radical vanguard.

This approach to the typical “carelessness” of popular music in the face of history, while at the same time distancing itself from it and manifesting an appreciation for invention, makes cultural anthropophagy, in the musical field, something contradictory, but with great potential. Within the New Music itself (the *Neue Musik*), there were those who promoted a radical decommitment in relation to the musical traditions, as we can see mainly in the work of John Cage, and even the most radical composers of the structural thought have tried, in certain moments of the vanguard trajectory, to make almost a *tabula rasa* of the history, getting rid of the weight of tradition. In this sense, the observation made by Pierre Boulez during his visit to Studio PANaroma in October 1996, referring precisely to commercial popular music, can serve as a critical view about this cultural manifestation, in which one has a curious praise for this apparent freedom, at the same time as one is against any musical “fad”:

In popular music, there are certain things I like and certain things I don't like at all. What I like is precisely this kind of spontaneity and the absence of History—history with a capital H. But what I don't like is that composers are always acting according to models that change according to fashion (Boulez, quoted in Menezes 2006, p. 228).

This comment is in line with another one worth quoting, from another great protagonist of the European musical vanguard, as it points out the importance, in certain circumstances, precisely of forgetting:

The desire to select emblems from the past can become poisonous if it does not find its counterpoint in the desire to forget them (Berio 2013, p. 471).

And Brazilian modernity will be precisely coined by this double facet: that of being open to the elements that come to it from outside, but at the same time ruled by a certain “carelessness” in relation to the materials it absorbs.

This posture, in itself innovative and potentially inventive, provides the great imperialist powers with an ideal pretext for a certain distancing, to preserve the status of countries that promote great, innovative, and avant-garde art. How can one admit that their production, which dates back thousands of years, is being surpassed by the achievements of economically and politically subservient countries? In the eyes of countries with a long cultural tradition, we know what all this can lead to the following: A new country that freely and syncretistically uses cultural elements of old traditions from other countries will always be seen, at most, as “exotic,” in a certain way as inconsequential and as somewhat irresponsible by peoples who trust too much in the weight of their own history and who exalt it to pursue their colonizing instincts, because cultural traditions, despite what they bring as contributions to artistic languages to the whole world, always serve as strategic elements of domination. Hence the nefarious and reactionary character of all cultural nationalism, since it tends to deny the potentially internationalist character of the great work of culture in order to emphasize its geographical origin, as if this were enough to reinforce the sovereignty of one folk over another.

The anthropophagic vision contradicts this dominating spirit and opposes, by its own syncretic nature, the colonizing and even nationalist desires. It is as if to say that, coming to meet the anthropophagic artist, the colonizing culture was swallowed to the taste of its receiver: the devouring artist. In the eyes of the holders of the old culture, however, Brazilian cultural anthropophagy would then be seen as a mark of “primitivism,” worthy of the Brazilian Indians, of whom it was claimed, 500 years ago, that they ate the flesh of the Portuguese who landed on their beaches to “discover” Brazil. It was these Indians to whom the movement of Oswald de Andrade, with its more-innocent-than-naive gesture, deliberately referred. The same Indians who, in spite of their supposed violence and cruelty, did

not need to “discover” this same territory, as it has always belonged to them long before the explorers arrived. . . Depending on the angle from which you look at it, violence and cruelty could tip more to the other side of the scales, as they are more a part of the invaders than the invaded.

But reactionaries exist everywhere. And in opposition to the anthropophagic attitude, there will always be, as we have already said, those who, wishing to oppose foreign cultures, seek to affirm the territory of their own making, as if art were forbidden its naturally intercommunicative potential, going beyond every frontier. In so doing, such a tendency does nothing more than take for itself the nationalist character present in the very spirit of the colonizers, reproducing it on Brazilian soil. It responds to the nationalism of the invaders with a “national nationalism,” in a pathetic delay of more than half a century in relation to the European nationalist movements themselves. This is how the nationalist spirit of the new country is revealed.

In this historical context, the deduction is obvious: It is not easy to make avant-garde music in these circumstances, so intertwined by contradictory interests, either from dominant and colonizing minds that seek at all costs to consider each act of invention of the new country as an heir of their own cultures, or from a xenophobic necessity, averse to the internationalist anthropophagic posture, that lodged itself in the very heart of a local production. And this is because if there is one influence absorbed by Brazilian culture that could have been avoided—and to which anthropophagic deglutition was precisely opposed—this thing is precisely European nationalism, which, contradictorily, also put down roots on Brazilian soil.

The Role of Avant-Garde Music and Brazilian Initiatives in Electroacoustic Music

In Brazil, electroacoustic music had its beginnings as early as the 1950s, even if in an incipient way and with a total absence of institutional support. Its initial milestone was the piece “Sibemol” (1956), by Reginaldo Carvalho, fresh from his short internship with Pierre Schaeffer in Paris, and in the early 1960s

Jorge Antunes would pioneer the first experiments with sound synthesis.

This was the initial milestone of the electroacoustic adventure in the country—timid, not at all pretentious, but in any case pioneering. It was only five years later that Jorge Antunes gave continuity to the electroacoustic adventure in Brazil, with a small piece lasting only 3:46, “Pequena Peça para Mi Bequadro e Harmônicos.” Between Carvalho’s B-flat and the E-natural of Antunes, we can glimpse the conflict of a tritone, quite symptomatic of the adverse circumstances of these pioneering experiments in Brazil, symbolized by a typically European background opposition: Whereas Carvalho was moving towards concrete experiments, Antunes chose, above all, the path of electronic music.

Following this primordial experience, in which were used sounds of concrete origin or sounds synthesized by a sawtooth wave generator built by the composer himself, Antunes decided to compose a small piece made exclusively with synthetic sounds: in this way “Valsa Sideral” was composed in 1962, considered the initial milestone of electronic music, properly speaking, in Brazil. The following year he composed “Música para Varreduras de Frequência,” in which he assumed, in his own words, “the aesthetics of precariousness,” owing to the technical conditions that were, at that time, not at all favorable to composers for this kind of musical practice. At that time, Antunes tried to take advantage of the technical defects resulting from the serious technological limitations to which he was subjected. Such an attitude could not only cost the artist the price of the low technical quality of the works realized, but also ended up influencing the electroacoustic making in the country, which then started to be ruled by all kinds of concessions to the most adverse technical conditions.

Furthermore, assuming precariousness as a compositional strategy certainly contributed to the genre not gaining new adepts, for few adhered to this cause at that time, and even of these pioneers of electroacoustic music in Brazil there was no public or institutional initiative that gained a life of its own, independent of its initiators.

In 1967, we witnessed a first, pale attempt to institutionalize electroacoustic music in Brazil,

when Jorge Antunes transferred his own electronic equipment to the Villa-Lobos Institute in Rio de Janeiro, which would continue to be called Estúdio Antunes de Pesquisas Cromo-Musicais, a name linked to himself, and where Antunes organized the first course of its kind in the country. This mixture of institutional and private character shows, however, that the foundations for the institutionalization of studio-produced music were not as solid as they might have been.

From 1969, in the midst of the military government in Brazil (as a consequence of the counter-revolution of 1964, which established a new period of severe political repression in the country), Jorge Antunes left the country in “voluntary exile” to Argentina, where he became active as guest composer at the Instituto Torcuato di Tella in Buenos Aires. There he became close to the Argentine composer Francisco Kröpfl, the first composer to make electroacoustic music and institutionalize it in South America. In the same year, the Uruguayan composer Conrado Silva (1940–2014) arrived in Brazil, where he sought to give impetus to performances with synthesizers, while establishing his own private electronic music studio. Through the hands of Silva, acoustician and composer, courses in acoustics would be offered in Brasília and São Paulo, as well as some acoustics laboratories—admittedly quite precarious—in which certain aspects of the history of electroacoustic music would be discussed, but without the regular and fully dedicated teaching of electroacoustic composition ever being instituted.

The Foundation of Studio PANaroma

This institutional and curricular deficiency was for a long time the sad characteristic feature of this branch of arts on Brazilian soil, until, after my return from Europe to the country in July 1992, I founded, in July 1994, the Studio PANaroma for Electroacoustic Music at the State University of São Paulo (UNESP).

Initially, the studio was the result of the sum of forces that resulted in an agreement between two of the most respectable institutions of higher musical education in the country: the private Faculdade

Santa Marcelina (FASM); and the publicly funded UNESP. I have worked at the latter institution since 1992 as a teacher and since 2011 as full professor of Composition and Electroacoustic Music. The Studio PANaroma derives its name from a word invented by James Joyce in *Finnegans Wake* (Joyce 1975, p. 143: “panaroma of all flores of speech”). It was the first initiative within Brazilian universities with the goal of founding a studio of international scope.

One can ask what, beyond what has been discussed above, could be the reasons for such an institutional delay until the emergence of the Studio PANaroma. There are many possible answers, beyond the historical circumstances. Perhaps it is the deep-rooted individualism of the Brazilian intelligentsia, which focuses more on the individual personality of the artist than on the importance of institutions. Or perhaps it was the difficult period through which a great part of the Brazilian intelligentsia passed in the middle of the evolutionary phase of international electroacoustic music, in which we were living under the sway of a calamitous military dictatorship, which still threatens us today. Or perhaps the lack of institutional vision of the composers themselves who embarked on musical experiments in the studio. It is difficult to know which would be the best answer, and probably all of them make sense. But the fact is that, since 1994, the Studio PANaroma established itself as a “watershed” in Brazil, serving as a model for other universities and colleges, which soon established their own laboratories—in São Paulo, Rio de Janeiro, Belo Horizonte, etc.—in an extremely healthy “competition.”

It would be foolish, however, to ignore the strong influence that European, especially German, electronic music had exerted on this process. Having graduated in composition at the University of São Paulo in 1985, I went on to postgraduate studies with Hans Ulrich Humpert. Humpert had been assistant to Herbert Eimert, founder of the first studio for “electronic music” in 1951. Thanks to a grant from the DAAD (Deutscher Akademischer Austauschdienst), I went on to work at the *Studio für elektronische Musik* in Cologne, where I composed six works in the years 1986–1990. It had been the lack of similar studios in my home country that

pushed me to go abroad, seeking this experience on European soil.

And the experience was decisive. Briefly, for the foundation of Studio PANaroma, I initially had as a “model” the historic *Studio für elektronische Musik* in Cologne. The exemplary functioning of this studio had served for me to idealize a model to be adapted on Brazilian soil upon my return in July 1992, after an additional year working with computer music in Italy, at the *Centro di Sonologia Computazionale* of the University of Padua. But the intention in founding the Brazilian studio was more pretentious. The goal was to go beyond the dimension of the German studio and, instead of a single studio (as was the case in Cologne) to build several composition studios, aggregated around a recording studio in which sounds could be professionally captured to serve as material for new emerging pieces. But more than that, the new studio should also lead to experiences on Brazilian soil that could reflect and even exceed the most significant contributions of not only the German branch of *elektronische Musik*—notably the structural work of Karlheinz Stockhausen, but also the *concrète* (and typically acousmatic) side, typified by the teachings of Pierre Schaeffer. When I conceived and founded the new studio, I recognized that my intention reflected that anthropophagic spirit discussed earlier.

The designation of the new Brazilian studio, which made reference to the importance of the complex and polysemic work of James Joyce, so relevant for contemporary music and especially for the work of my main mentor, Luciano Berio (especially for those that were two of the most important achievements of the electroacoustic genre and of the verbal-electroacoustic composition of all times: *Thema (Omaggio a Joyce)*, of 1958, and *Visage*, of 1961), was also important because it revealed a little of my intellectual origins, amid the environment of São Paulo concrete poetry (*poesia concreta*), for which Joyce had played a fundamental role, praised by an important publication of 1962: the book *Panaroma do Finnegans Wake*, a translation of fragments of the Joycean work (de Campos and de Campos 1962). At the same time, the term resembled a word originating in the Tupian family of languages, in a false and ironic game with the

Figure 1. A page from the score of the author's "Parcours de l'entité" (1994), the first work realized at Studio PANaroma. The piece can be heard at <https://youtu.be/vB7mHSxIE3g>.

The image shows a page from a musical score for "Parcours de l'entité". It consists of three systems of staves. The top system includes a "bande numérique" (numerical band) with a tempo marking of "ca. 72", a "grande flûte en UT" (flute in C), and "percussions" (percussion). The flute part features dynamic markings such as *ff*, *f*, *mf*, *f*, *ff*, and *fff* (il possibile), along with a "smorzato" instruction. The percussion part includes "avec baguettes de métal" (with metal sticks) and uses a triangle and gong philippin. The middle system features the "bande numérique" with a tempo of "ca. 72", the "grande flûte en UT" with dynamics like *mf*, *ff*, *mf*, *f*, *mf*, and *pp*, and "percussions" with a "laissez vibrer" instruction. The bottom system continues the "bande numérique" with various markings, the "grande flûte en UT" with dynamics like *mf*, *ff*, *mf*, *f*, *mf*, and *pp*, and "percussions" with a "laissez vibrer" instruction. The score includes numerous time signatures and dynamic markings throughout.

FLO MENEZES 5 Parcours de l'Entité

nationalism I had always opposed: The illusion of sound could take us to other environments, but the course to be taken was decidedly radical, deeply speculative and experimental, and essentially internationalist and "panaromic." And, above all, without concessions.

In 1993, the construction of the first building began on FASM premises of what would become this studio, a partnership between FASM and UNESP: a total of 111 m² divided into two composition studios and a recording studio. The first activities of teaching and producing electroacoustic composition already started in 1993, still in an improvised room on the top floor of FASM, while the new studio was being built right next to the beautiful theater of that college. It is necessary to point out that Studio PANaroma already existed, in practice, since

1993, and that even before its official birth, its first realization was already born: my work "Parcours de l'Entité" (see Figure 1 for an excerpt), composed during the first semester of 1994 and awarded in 1995 the Prix Ars Electronica of Linz, Austria. It was not until July 1994, however, that Studio PANaroma was officially founded with me as Artistic Director (*Diário Oficial do Estado de São Paulo*, 28 July 1994, p. 27).

Building the Studio; Loudspeaker Orchestra PUTS

This agreement lasted until 2001, when FASM and UNESP each went their own way, and Studio PANaroma continued autonomously at UNESP, with the unfinished construction of a new, 172-m²

Figure 2. The modern facilities of Studio PANaroma at Universidade Estadual Paulista (UNESP), São Paulo: studio entrance (a), view of the main studio (b).



(a)



(b)

building. The decision of the UNESP Rectorate to build a new São Paulo campus in the Barra Funda neighborhood interrupted the project. But every cloud has a silver lining: Due to the change in the Arts Institute as a whole, it was then possible to convince the Rector's office of the need to construct a permanent building for the studio, consistent with the importance of its activities, its unique technological arsenal, and its wide national and international reputation.

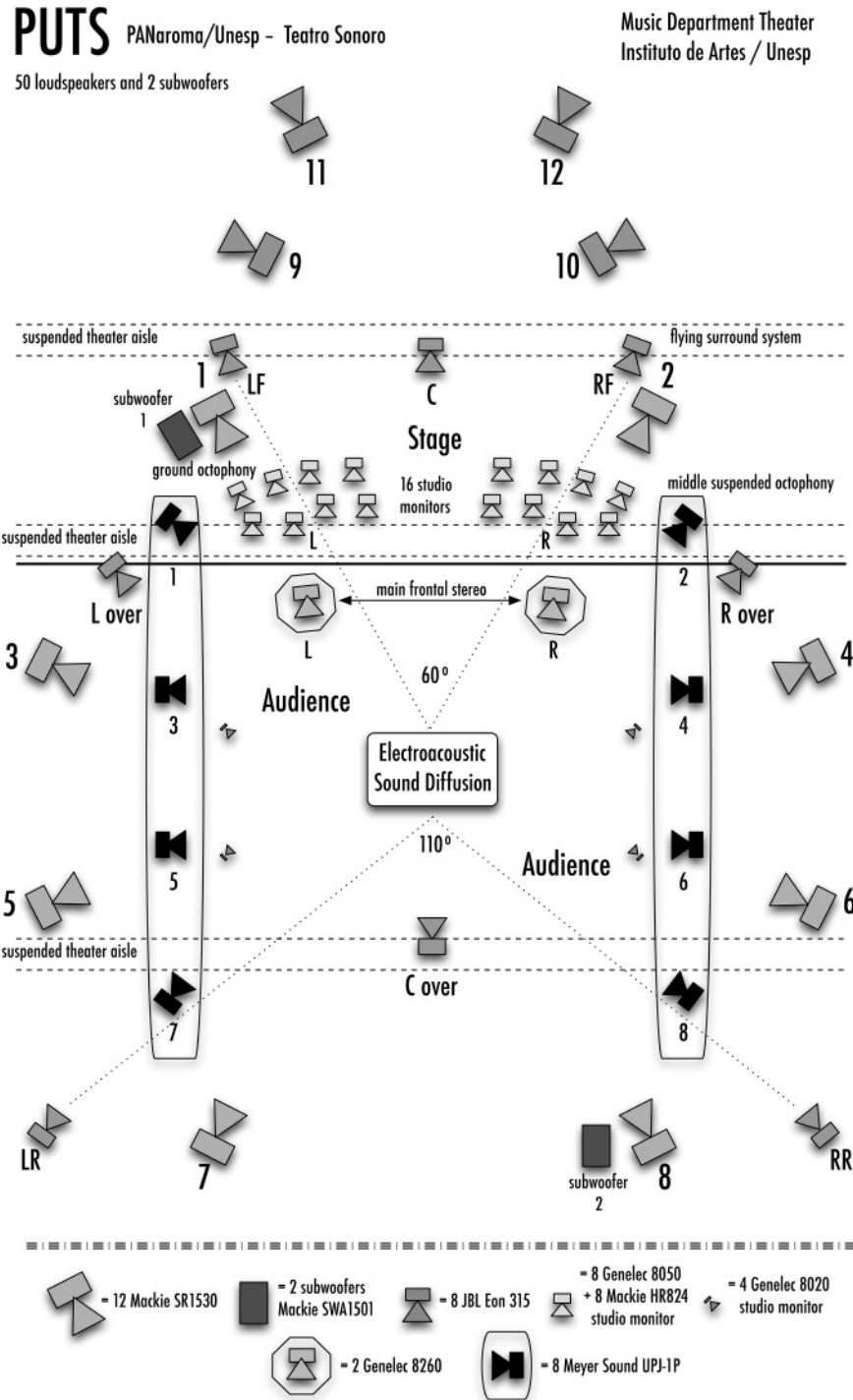
With its present facilities and rooms encompassing over 300 m² (see Figure 2), the new building, isolated from the main building of the Arts Institute, was built during 2010–2011 based on my specifications. This was made possible by support from several research projects over the years, including support from the Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP). This support also made possible the foundation of the first (and, until now, only) loudspeaker orchestra in Brazil and, indeed, in Latin America, PANaroma/UNESP–Teatro Sonoro (PUTS, see Figure 3). It consists of nearly 50 high-quality loudspeakers from Meyer Sound, Genelec, Mackie, and JBL.

It should be emphasized that even in the conception of PUTS we can glimpse the syncretic and, in a certain sense, “anthropophagic” character of Studio PANaroma, absorbing what is most valuable

in the experiences regarding the sound spatialization of the strands that once vehemently opposed each other in European soil: the concrete and the electronic. With PUTS we privilege, on the one hand, the constitution of a range of high-quality, homogeneous loudspeakers in a sufficient number so that octophonic sound projection plans can be realized without prejudice to the spectral quality of the sounds. But on the other hand, with the varied and totalizing disposition in space of a great number of speakers, and with distinct homogeneous groups of speakers, there is the possibility of dynamization of the live interpretation even if the work to be diffused is intended for a greater number of channels, so that the person in charge of the electroacoustic sound diffusion can vary the “figures of space” (to use the term proposed by Belgian composer Annette Vande Gorne) in the projection of sounds.

In this sense, PUTS identifies itself with the conceptions that led British composer Jonty Harrison to the foundation of the Birmingham Electroacoustic Sound Theater (BEAST), with whose conception we feel, in this sense, more affinity. It is no coincidence that both systems are called sound “theater” rather than “cinema”: Instead of a predominantly frontal arrangement of speakers, as occurs in the Acousmonium conceived in 1974 by François Bayle for the

Figure 3. PUTS
 (PANaroma/UNESP–
 Teatro Sonoro), Studio
 PANaroma's loudspeaker
 orchestra.



Groupe de Recherches Musicales (GRM) in Paris, which favors a “cinematic” projection of sounds—a *cinéma pour les oreilles*—an arsenal is set up that almost equally invades the whole sound theater in which the listener is placed. Although Bayle’s historical achievement constitutes to this day, like his work, a paradigmatic reference of the electroacoustic genre, it seemed fundamental to us to build a multitrack system through which the most varied structures of spatial configuration could take place, without any prejudice to the spectral quality of the sounds in the interpretative act of electroacoustic sound diffusion.

It is from the ranks of the School of Electroacoustic Composition of Studio PANaroma that the main initiatives of foundation of new research nuclei and university studios throughout Brazil have come. For instance, Daniel Barreiro, in charge of the studio at the Federal University of Uberlândia (Minas Gerais); Danilo Rossetti, at the Federal University of Mato Grosso; or Rael Gimenes, at the Federal University of Maringá (Paraná)—to name only a few names—are some of the composers and researchers who, having passed through Studio PANaroma, developed pertinent activities in distinct parts of Brazil. Other centers of production and research in the area also develop several university extension activities, although not always focused on electroacoustic music as the central point of their research, such as the centers existing at the University of São Paulo (USP) or the State University of Campinas (Unicamp). In the latter, one should mention the Unicamp (NICS), founded by the composer Jônatas Manzolli. Such initiatives, although praiseworthy, are, however, “hybrids” and are based on interdisciplinarity. It is worth mentioning, in this context, other several initiatives, even if occasional, of organizing international events on Electroacoustic Music in Brazil—such as the Brazilian Symposia on Computer Music (SBCM) or New Interfaces for Musical Expression (NIME)—events in which the emphasis is mainly on the technical and technological aspect of composition with electronic resources and not so much on the approach about the language of electroacoustic composition itself, and which, for this reason, are not close to the activities developed by Studio PANaroma.

In the Brazilian context, the State of São Paulo is still, it must be acknowledged, at the cutting edge of the electroacoustic musical vanguard, something that can be explained by two fundamental factors. The first is historical: In March 1963, it was in São Paulo that the important New Music Manifesto (*Manifesto Música Nova*) was published, signed by Gilberto Mendes, Willy Corrêa de Oliveira, Damiano Cozzella, and Rogério Duprat, four young composers who had taken part in the Darmstädter Ferienkurse in Germany. In this manifesto, the paths of experimental, structural, radically new music (in the sense of *Neue Musik*, as advocated by Theodor Adorno) were cleared and defended in Brazil, in opposition to the retrograde currents linked to xenophobic nationalism. Thus, Mendes would later refer to this moment in the history of Brazilian music as an attempt to

save Brazilian music from backwardness . . . after the violent relapse of nationalist evil in the early 1950s. Our music was clamouring for this change, for this updating (Mendes 1994, p. 81).

This historical landmark roots the vanguard in São Paulo soil, even though, obviously, creators of the Brazilian musical vanguard were also active in other states of the Federation. It is in São Paulo, stage of the Week of Modern Art of 1922 to which we refer, however, that the impetus for modernity became more pressing and, with it, an essentially cosmopolitan and internationalist conception of art in general. Moreover, ten years before the New Music Manifesto, it was in São Paulo that one of the main international movements of avant-garde poetry was born: concrete poetry. The protagonists of this movement—the brothers Haroldo and Augusto de Campos and Décio Pignatari—were all very close to the core of avant-garde composers, especially Willy Corrêa de Oliveira and Gilberto Mendes. In Rio de Janeiro, a city of undeniable importance in the country’s history (including for having been the capital of Brazil for so many years), it was and still is imposed—despite the presence of important names from the vanguard of the arts—above all, the nationalist line of music, opposed to the musical vanguards and markedly traditionalist, in the heritage of Villa-Lobos’s music, which does not prevent,

however, the emergence of dissenting voices from the avant-garde and even private initiatives, even if without an institutional character and of quite modest dimensions, linked to technological music, as was the case of Estúdio da Glória, founded in 1981.

The second fundamental aspect that makes São Paulo the privileged pole for research in music and technology is the city's economic power: As the main economic center of Brazil, São Paulo has the main state agency for research promotion in the country, FAPESP, discussed earlier. Even though a relatively small percentage of this millionaire state foundation is destined to the arts and humanities in general, good research projects always have the opportunity to be contemplated and receive important financial contributions, and it is from FAPESP that practically all of the rich technological arsenal of Studio PANaroma comes.

Recent Research

Such is the case of the present research project at Studio PANaroma, which brought to the studio a recent and crucial technological implementation. Focused on real-time *musique mixte* and on the spectral analysis of sounds coming mainly from metallic percussion instruments, the research, within the main line of FAPESP funding (a thematic project), develops several fronts of electroacoustic musical performance around its fundamental axis. It is worth mentioning, in this context, the resource, conceived by me based on the tools developed by the young researcher Raphael Vilani Domiciano, which will constitute one of the electroacoustic scenes in real time of my opera, *Oposicantos*, currently being composed and to be premiered later in 2024: The extraction of the principal partials of a given inharmonic spectrum coming from a great "Stockhausen" tam-tam, the generation of a "cloud of sounds" in approximation to the tempered system, the random generation of the order of these derived notes, whose amplitude is controlled by a filter, and the triggering, via MIDI, of a Disklavier, which reproduces (without a pianist!), on the tempered keyboard, the spectrum resulting

from the analysis, interacting in real time with the spectrum of the tam-tam, "harmonizing" it (see Figure 4).

Over its almost 30 years of existence, Studio PANaroma has developed activities that have gained international recognition, some of which have become part of the mandatory agenda of the world electroacoustic medium: the São Paulo International Competition of Electroacoustic Music (CIMESP); the São Paulo International Biennial of Electroacoustic Music (BIMESP), which in 2022 reached its 14th edition; the series of CDs and DVDs *Maximal Music*; the series of electroacoustic concerts (currently under the name T-Son-Teatro Sonoro); the various research and extension activities; the first books on electroacoustic music in Portuguese (e.g., Menezes 2006). Also noteworthy are the rich exchanges with important studios and research centers outside Brazil, as well as the visits of composers and researchers during these years, including Pierre Boulez (see Figure 5), Dieter Schnebel, and Annette Vande Gorne, among many others.

In November 2015, from a proposition of the French institution itself, we organized at Studio PANaroma the Forum-IRCAM outside Paris, in an important international event that counted with the adhesion of our sister universities of São Paulo: USP and Unicamp. Finally, Studio PANaroma counts more than 200 works made by its students at the graduate and postgraduate level, as well as works created by visiting composers and a vast arsenal of electroacoustic works from all over the world. In addition to these practical achievements in the field of music composition, the studio also conducts several postgraduate research projects on electroacoustic music and composition in general.

But in the face of so many achievements, why is it that Studio PANaroma is little remembered when one speaks, outside Brazil, of institutions in the field of electroacoustic music? The reason is the same as why the works of notable Latin American composers are either little remembered or considered as "exotic" by the European and North American musical circles, and is related to the historical and ideological approach by which the present text begins: If Brazil were an imperialist power, exploiting countries subordinate to its capital, its erudite

Figure 4. Max patch developed at Studio PANaroma for the author's opera Oposicantos.

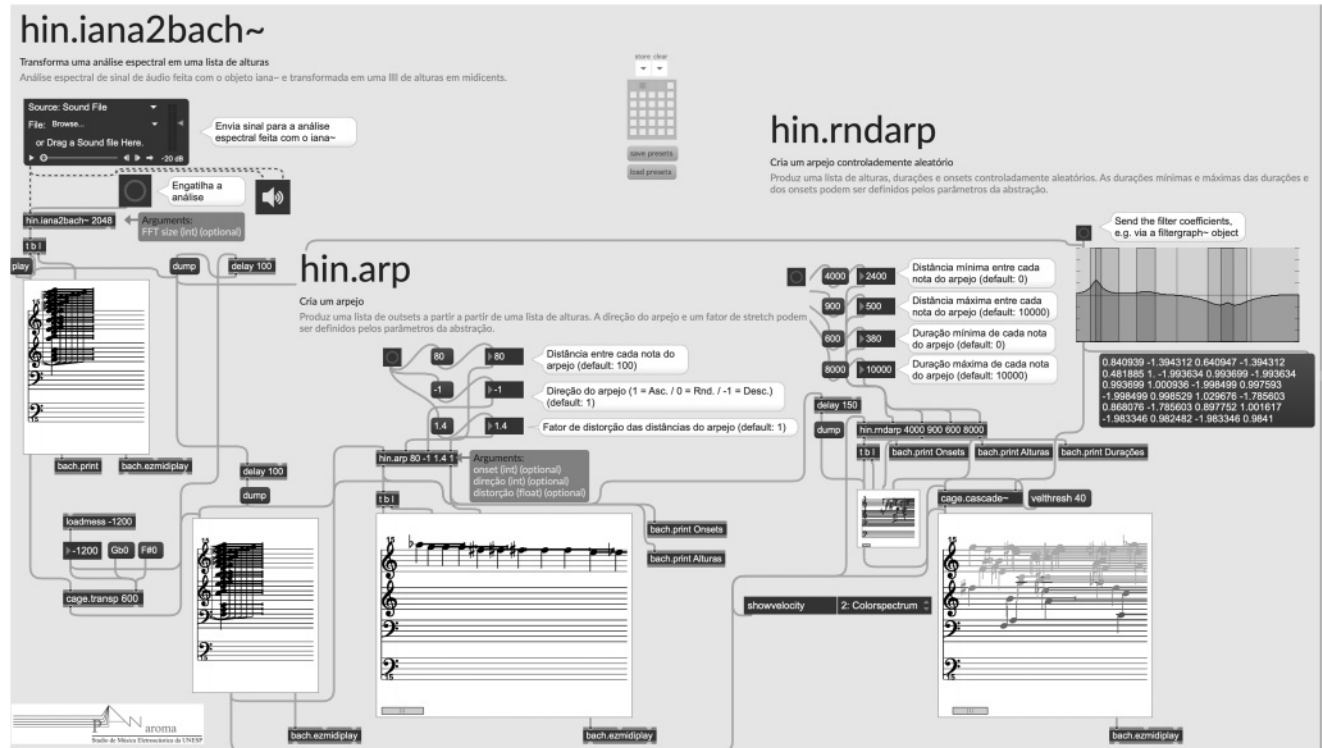


Figure 4.

Figure 5. Pierre Boulez (right) on a visit to Studio PANaroma in October 1996, in conversation with the author.



Figure 5.

culture would be proportionally better appreciated and respected worldwide. Its rich popular music has an international reputation because, based on popular rhythms, it ends up representing or reflecting something that is typical of the country's musical communities and that is necessarily absent in other countries. But when it comes to "research music," to speculative music or music of invention, or—as I prefer to call it—to the "music of scripture," we enter the terrain that is common to all musical communities on the planet, and in this context, the ideological issue we are dealing with comes into play.

Culture, in spite of all the relative autonomy of its artistic languages, recognized even by Marxists, responds inexorably to a relation of economic-political power. Only when humanity has overcome the capitalist hegemony, which destroys itself and the planet, will creative achievements be seen with the respect due, independently of whence they come. Only then will the provincial and arrogant thinking of the great imperialist powers be overthrown and humanity will access a more dignified place. And only then will Latin institutions like Studio PANaroma, with their music, have their place and importance duly recognized around the world.

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