

Musicians and Movements That Initiated Electroacoustics in Brazil

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Abstract:

Research being conducted on the **Relations Between Technology and Language in Brazilian Electroacoustic Music** situates itself at the crossroads of systematic and historic musicologies. The present article tackles historical aspects, provisionally presenting the beginnings of Electroacoustic Music in Brazil according to events that took place between the forties and seventies, with particular reference to the work of a few pioneers.

Although Brazilian electroacoustic music is almost half a century old, the literature is scant. I have, for a large part of this period, been a witness to and an actor in this history. The present article seeks to gather information that has already been collected as well as interviews and testimonies by musicians, reports from my own personal experience, documents collected by myself (newspaper cuts, magazine articles, reviews, letters and concert programmes), and the manuscripts of and notes to conferences I have been giving since 1968 in Brazil and abroad. In this manner, I expect to contribute data and ideas that may serve as a point of departure for future research. The present work is limited in scope to those musicians (composers, performers, theorists) who, between the forties and seventies, initiated the practice of electroacoustic musics in Brazil.

The term **electroacosutics** is meant here to encompass any music that employs the resources of the electronic medium to organize, create and/or modify sounds. Thus, I see the computer as both a tool and the medium selected by the composer to perform the role of an agent that determines the content of the piece, and the manner in which it will be performed, from tape music to mixed pieces, as well as those employing electronic instruments or live sound-processing means. At the root of electroacoustic musics one finds two kinds of independent activities. These activities are still practised today, even if in

manners that their initiators could not have foreseen: **sound production** and **music composition**. In the last fifty years, the wide application of technology to the making of electroacoustic musics has given rise to manifold ways of making music and created an interdependence between the domains of science and music. Such applications become all the more pertinent as computer systems start their fast development. With the use of computers and digital units, the processes of composing and of producing compositions become effectively interconnected to the technical and scientific resources of a particular society. Modern computer systems involve concepts that go far beyond their physical construction. One of the attributes of computers is their capability to be programmed, that is, the high level programming languages that make them available to the most diverse areas of knowledge.

Through extensive application of computers in the generation and processing of sound and the composition of music from levels of the microformal to the macroformal, composers, from creative necessity, have provoked a robust interdependence between domains of scientific and musical thought (...) Problems of particular music importance in some cases suggest or pose directly problems of scientific and technological importance, as well. Each having their own motivations, music and science depend on one another and in so doing define a unique relationship to their mutual benefit.¹

Inherent in electroacoustic musics, from their inception, is the concomitant work of musicians and scientists in the creative act. The two great 'creators' of *musique concrète* (1948) and *elektronische Musik* (1950), the engineers **Pierre Schaeffer** and **Herbert Eimert**, were responsible for the renowned Organisation Radiodiffusion et Télévision Française (ORTF), of Paris, and Nordwest Deutsche Rundfunk (NWDR), of Cologne. The first computer music attempts date from 1956, when, in the University of Illinois, **Lejaren Hiller** calculated a score with the help of rules that were encoded as algorithms in the ILLIAC I computer, thus producing the **Illiac Suite for String Quartet**. One year later, a researcher in the Bell Telephone Laboratory of New Jersey, Max Mathews, wrote the first programmes for digital synthesis of sound in the IBM 704 computer: **Music I**, **Music II**, **Music III**, **Music IV** and **Music V**, which is still fairly used today, often in the guise of an adaptation by Richard Moore: **CMUSIC**. The computer was then used to control analogue

instruments. The first example of a **Hybrid Synthesis** system appeared in 1970 in the Stockholm Electronic Music Studio, where a PDP 15/40 was employed to control twenty-four frequency generators, a white noise generator, two three-octave filters, a ring modulator, an amplitude modulator and a reverb modulator. The appearance of the microcomputer gave rise to **Mixed Synthesis**. Digital synthesizers were veritable computers, adapted to the calculation of sound waves in real time. The electronic music-instrument industry did not take long to adapt to these new developments. From the early eighties to date, all synthesizers are digital and necessarily comply with the **MIDI** standard.

If musical informatics enriches us so, this is because it has progressively created tools that are capable of radically changing manners of conceiving and making music. Though its history is short and mingles with the development of digital technologies, (...) informatics has presented itself from the start as sufficiently mature to welcome all kinds of preoccupations, from compatibility with scientific research to artistic creation, which, of course, is what interests us most.²

Musicians can pride themselves on having been the first among artists to appropriate the computer. It has never been easy, however, to distinguish, delimit or define, in the electroacoustic universe, the position of both the *creative scientist* and the *scientific musician* with regard to their final product. Undoubtedly a work of art, it should be of the artist's exclusive responsibility. Among the diverse questions and polemics that follow thence, some are more ubiquitous and pertinent than others. An individual who is equipped with all scientific knowledge required to create or operate a programme capable of producing a musical piece, is he or she also equipped to cater for all of this piece's artistic needs? A composing artist who lacks scientific knowledge about sound or has not mastered a particular technology, is he or she capable of producing electroacoustic music with the aid of technicians? Even if such questions do not constitute the object of my investigation, they are inevitably implicit herein as I attribute to certain individuals or to certain groups the creation of electroacoustic pieces. In his Introduction to *The Language of Electroacoustic Music* Emmerson observes:³

¹ Chowning, J. 'Forewords: New Music and Science'. In Roads. *The Computer Music Tutorial*.

² Battier, Marc. *Entre l'idée et l'oeuvre*, p. 319.

³ Emmerson, S. *The Language of Electroacoustic Music*. Macmillan, 1986, p. 1.

Few genres in Western music have leapt fully fledged from the heads of their creators. It has usually been possible to identify antecedents and influences in each case: a reflection of our desire to contextualize the revolutionary and thus reassure ourselves of the continuity of our traditions. But in no age has this process of analysis and criticism been so immediate; at no time has the new been so immediately the subject of scrutiny in a range of publications from the popular press to the esoteric research paper.

Immediate academicization is dangerous, especially when applied to artistic forms; all information is afforded a veneer of neutrality, all events treated as equally worthy of analysis; webs of historic reference are established: who was the first or who influenced whom; even though details of a style or technique may be examined, no real evaluation of the music is made and the emergence of a true critique is stifled.

The first electroacoustic music manifestations in Brazil occurred in Rio de Janeiro, which, in the middle of the twentieth century, was not only the capital of the country but also its main cultural centre. The composer **Reginaldo de Carvalho** (Guarabira, Paraíba, 27 August 1932) came to Rio in 1942. He is the author of the first piece of Brazilian **musique concrète**. **Sibemol** was created in 1956 in his own private studio, the **Estúdio de Experiências Musicais**. A physicist and a musician, **Jorge Antunes** (Rio de Janeiro, 23 April 1942) created the first exclusively **electronic** piece, **Valsa Sideral**, using signal generators, filters and modulators — some of which built by himself — in his home laboratory in 1962. Although no one knows of any composer who might have preceded Carvalho in the use of electroacoustic means, it seems appropriate to refer to some musicians and musical movements that, from the late thirties onwards, sowed the seeds of avant-garde music in Brazil.

The composer, conductor, educator and aesthetician **Hans-Joachim Koellreutter** (Freiburg, 2 September 1915) landed in Rio de Janeiro on 15 November 1937. In the following year, he was already meeting with the most important Brazilian composers and musicians of the time. In a movement committed to the unknown, the contemporary and renewal, Koellreutter created the **Música Viva** group, whose activities were as diverse as they were polemical. Among the first concert of 1939, articles in the 'Música Viva' review, weekly broadcasts in the Radio of the Ministry of Education and Culture (Radio MEC) and

the manifestos of the forties, I wish to draw attention to the *Declaration of Principles*, which forms part of the 1946 manifesto. In it, the group adumbrates, among other things, the manner in which electroacoustic music would establish itself in France and Germany a few years later.

Knowing that musical technique and the technique of musical construction rely on the techniques of physical production, Música Viva proposes to replace a teaching of music and of music theory that is based on aesthetic prejudices presented as dogmata with a scientific teaching based on studies of and research into the laws of acoustics. In addition, we shall support initiatives favouring the artistic use of radio-electric instruments.⁴

Despite this bold statement, the group did not put studio techniques into practice at the time. Koellreutter himself would employ electroacoustic means only late in the sixties, when he returned to Germany and created the piece **Sunyata**, for flute and magnetic tape. **Cláudio Santoro**, another member of the group, got deeply involved with atonality and avant-garde procedures in the forties but turned to nationalism in the subsequent decade. In the sixties, however, Santoro took up the search for a more contemporary expression. Santoro spent the year 1965 in Berlin, where he created his first tape pieces, on scholarships from the Ford Foundation and the German government. Although dismissive of electroacoustic composition at a later stage, Santoro left some important pieces in the genre.

Reginaldo de Carvalho studied composition with Villa-Lobos in Rio and was indicated by his teacher to a French government scholarship. In this manner, Carvalho was able to study with Le Flem and Messiaen in Paris. This happened in the early fifties, when Pierre Schaeffer was opening the doors of the French Radio experimental studio to composers from outside the small group of musique concrète pioneers. Working under Schaeffer and Ferrari, Carvalho became acquainted with the group's experiments. Back in Rio, he set up his **Music Experiences Studio** (Estúdio de Experiências Musicais), where he created his first musique concrète pieces and did research between 1956 and 1959.

⁴ Mariz, Vasco. *História da Música no Brasil*. Rio de Janeiro: Civilização Brasileira, 3rd ed., 1983, p. 236.

The Brazilian capital shifted from Rio to Brasilia early in the sixties. Many composers were attracted to the new capital, particularly those concerned with experimental music. In the modern environment of the new city, **Damiano Cozella** and **Rogério Duprat** saw the ideal ambiance for the creation and practice of contemporary music. Santoro moved as well, setting up the Music Department of Brasilia University in 1962. Carvalho followed suit. In an initiative that brought into play the Music and the Electronics Departments of Brasilia University as well as the Educative Radio (Rádio Educadora), Carvalho formed a nucleus for the creation of an institutional studio, where he taught and did research. Such efforts by musicians to start up and stir the artistic life of the new capital were nevertheless abruptly interrupted in 1965, when Brasilia University was dismantled, following the military coup that, since 1964, was playing havoc in the country. Santoro left for Germany, Cozzella and Duprat for São Paulo, Carvalho for Rio.

Carvalho set up another private studio in Rio, the **Experimental Music Studio** (Estúdio de Música Experimental), to pursue research and composition. In 1966 he was appointed to the direction of the **National Conservatory of Choral Singing** (Conservatório Nacional de Canto Orfeônico). In a tribute to its founder, Heitor Villa-Lobos, whose original goal was to form music teachers for primary and secondary education, Carvalho changed its name to **Villa-Lobos Institute** (Instituto Villa-Lobos). The study and promotion of experimental music was the institution's new goal. The following precept of Carvalho's portrays him well: **'Know today the musical language of your time so that you do not have to know it in the near future as the language of the past.'**⁵ The Villa-Lobos Institute represented a rebirth of the Música Viva group ideals. Deprived of the resources required to create a true research studio, Carvalho gathered composers and students, some of which would eventually establish the Brazilian electroacoustic repertoire and the first institutional laboratories for teaching and research. Jorge Antunes joined the staff in 1967, setting up the **Integral Art Laboratory** (Laboratório de Arte Integral). It was there that Antunes pursued his 'chromo-musical' research, blending sound, light and various objects. Antunes also taught Experimental Music, with particular reference to the electroacoustic practice. This

⁵ Neves, José Maria. *Música Contemporânea Brasileira*. São Paulo: Ricordi, 1981, p. 190.

Laboratory lacked adequate instruments but fulfilled the role of an electroacoustic music centre.

Pioneers too were the pianist and composer **Jocy de Oliveira** (Curitiba, 1936) and the Uruguayan acoustic engineer **Conrado Silva** (Uruguay, 1940). The author of an important corpus of electroacoustic pieces, Silva was privileged with a scientific background. He settled in Brazil in 1969 as a lecturer in the University of Brasilia and organized, for fifteen years, the Latin American Courses in Contemporary Music for fifteen years..

The present author sowed his seeds in various beds, always with the objective of creating public spaces for young composers to study and do research. Circumstantial contradictions, however, have stalled the flourishing of his ideas. In 1970 in the University of Brasilia, in 1974 in the music school Travessia, in São Paulo, and in 1978 in the Art Institute of the State University of São Paulo (UNESP), incipient studios operated which fulfilled the pedagogic function of initiating into electroacoustic music some very interesting musical personalities. Alas, all of this now forms part of the huge swamp of frustrated initiatives.⁶

On pioneering deeds, Silva comments in the same text:

I have said that the Villa-Lobos institute was the first. In fact, this is true as concerns public entities, but there exists an older studio ignored by everybody that is still functioning today. I am referring to the persistent action of an Argentinean composer. She has lived in São Paulo for over thirty years and was a fellow of Carvalho's in his courses with Schaeffer. Susana Baron Supervielle de Tresca set up her studio — a home studio, but a high quality one — following the French model. She still works in it, in total isolation.

Jocy de Oliveira was not connected to any Brazilian group or institution. She developed her work abroad, taking a Master's at the Electronic Music Laboratory of the University of Washington under the supervisions of Robert Wykes and W. Piston. Her first electronic piece, **Estória I** for magnetic tape (1966), was created with recourse to Moog sounds and the processed voices of the soprano Roselyn Wykes and herself. With the conductor Eleazar de Carvalho, she organized the First Week of Avant-Garde Music in 1961 under

⁶ Silva, Conrado. 'Música eletroacústica na América Latina'. *ART* 13.

the auspices of the Brazilian Musical Youth (Juventude Musical Brasileira), bringing in Berio, Pousseur and Tudor for Rio and São Paulo presentations that included symphonic music, pieces for tape and mixed pieces.

The **Música Nova** group represented another movement of renewal, led by the composers **Willy Corrêa de Oliveira** and **Gilberto Mendes** in the São Paulo of the sixties. Their 1963 manifesto took a stand in favour of total commitment to the contemporary world and associated electroacoustic processes with internal developments of the musical language. Both Corrêa de Oliveira and Mendes employed the electronic medium and attended the Darmstadt **International Summer Courses**. Corrêa de Oliveira, however, now omits such pieces from his catalogue and Mendes never went as far as exploring the electroacoustic language proper, although he did use electroacoustics in an expressive and original manner. Born in Rio in 1932, **Rogério Duprat**, another member of the group, developed his work in São Paulo. With **Damiano Cozzella** (São Paulo, 1930), he is the pioneer of the **musical use of computers**. Their ‘activities led to the piece **Música Experimental** (1963), which applies computer aided calculations to montage’.⁷ Duprat and Cozzella started working exclusively in popular music between the late sixties and early seventies, setting up the **Pauta** professional recording studio and applying their electroacoustic know-how to the making of arrangements. Their most significant contribution happens in this area, and in their collaborations with the **Tropicália** movement in particular.

Later in the seventies, in Rio, **Marlene Migliari Fernandes**, **Aylton Escobar**, **Jaceguay Lins**, **José Maria Neves** and myself continued the pioneering works of Antunes and Carvalho. Until the early seventies, the practice and performance of electroacoustic musics had been connected to experimental musics. The few performers who took an interest in this area were hard-workers. They formed with composers a team whose continuous efforts produced excellent results in the form of performances and divulgation of the repertoire. Their concerts and movements attracted the attention of critics and the public alike. One of the first manifestations of the aforementioned group was the foundation of the Brazilian

⁷ Maués, Igor Lintz. ‘Música Eletroacústica no Brasil’. Master’s dissertation. School of Communication and Arts, São Paulo University (USP), 1989, pp. 7–8.

Society for Contemporary Music (Sociedade Brasileira de Música Contemporânea) in the early seventies. Led by Antunes, a committee was set up to direct the Society. It comprised Airton Barbosa, Aylton Escobar, Antunes and myself. J. Lins, M. Fernandes, R. Carvalho, R. Tacuchian and E. Krieger also participated. Statutes were created and registered with the International Society for Contemporary Music. To collect funds, a series of concerts was organized in the Gláucio Gil theatre. These concerts were promoted by the Department of Culture of the Guanabara State and the Brazil-Germany Cultural Institute. Since then, never has there been such a close relationship between contemporary music and the media. The press would announce the society's activities and we could always count on critics to praise or loathe, the 'vanguardists', ourselves. Concerts were all sold out and programmes featured Brazilian composers side by side with Cage, Stockhausen and Berio. Among the performers, one counted Airton Barbosa, Odette Ernest, Iberê Gomes Grosso and myself.

A historic concert has launched the Brazilian Society for Contemporary Music in the Gláucio Gil Theatre. We watched for the first time the dis-conventionalization, the dis-sacration — what word shall I use? — of the concert ritual, with the hall overcrowded with an informally dressed audience who listened to an entirely new music, the artistic dignity of which was always clear. Electronic music dominated. But there was also a musique concrète example by Reginaldo de Carvalho and music blending instruments with electronic recording, as well as music for instruments that advanced people call conventional. For instance, the piano, which des-conventionalizes itself in the hands of Vania Dantas Leite. I shall call her the anchor, since she was the one who manipulated the equipment lent by the Roquete Pinto radio station.⁸

Despite these efforts, the Brazilian Society for Contemporary Music ended up being registered by the composer Marlos Nobre in the same year, even if its foundations were effectively laid by ourselves.

The first visit of **Pierre Schaeffer** to Brazil took place in 1971, close to the end of Carvalho's term as Director of the Villa Lobos Institute. It was in that building of the Flamengo beach, later set afire in a fight between students and the police, that Brazilian electroacoustic music was born. Without the institutional support required to develop

⁸ Nogueira França, Eurico. Critique in the *Correio da Manhã* newspaper. 27 April 1970.

serious research and composition, however, almost all composers were forced to leave the country or abandon composing. As the Guanabara and Rio de Janeiro states merged into one in 1971, the Villa-Lobos Institute became a member of the Federation of Isolated Federal Schools of the Rio de Janeiro State (Federação das Escolas Federais Isoladas do Estado do Rio de Janeiro). Eight years later, the federal government grouped all such schools into a new university, giving rise to the Rio de Janeiro University (UniRio). Its Centre of Letters and Arts comprised the Theatre School and the Music School; the latter stuck to its old name. I joined the staff of the Villa-Lobos Institute in 1981, taking up the teaching and practice of electroacoustic musics and introducing, five years later, Electroacoustic Composition in the syllabus of the Bachelor's Degree in Composition. Only in 1992, however, would I be able to set up an Electroacoustic Music Studio, with the aid of funds from the Rio de Janeiro State Research Foundation (FAPERJ). Antunes returned to Brazil in 1973, joining the staff of the Brasilia University Music Department, where he established an **Electroacoustic Music Laboratory**. In 1994, he founded the Brazilian Society for Electroacoustic Music, of which he was elected President.

As regards the **science/music** interface, I must cite the pioneering work that Aluzio Arcela started in the mid seventies. While studying sound synthesis in the Pontifical Catholic University of Rio de Janeiro, he took private music lessons with Esther Scliar and Koellreutter. In February 1977 Arcela presented his Master's dissertation: '**Dynamic Spectra Generating System for the Synthesis of Musical Signals**': 'It is a question of a system capable of synthesizing musical signals by generating and processing frequency spectra anywhere within the range of humanly audible frequencies'.⁹ The doctoral dissertation, '**Time Trees and the Genetic Configuration of Musical Intervals**', followed seven years later. As Koellreutter (one of the external examiners), computer scientists had much difficulty in understanding the subject in its entirety, from both scientific and artistic points of view. Arcela settled in Brasilia, where he funded a laboratory for research into sound and music composition attached to the Computer Science Department of Brasilia University.

⁹ Arcela, A. 'Sistema gerador de espectros dinâmicos destinado à síntese de sinais musicais', Pontifical Catholic University of Rio de Janeiro, p. ii.

Electroacoustic music started being produced in various corners of the country from the early seventies onwards. Worth of mention is the fact that, although there was not a single institutional studio at the time, the foundations of electroacoustics had already been solidly established. On conclusion, one may say that the appearance of electroacoustic music in Brazil has resulted from:

1. Isolated efforts by some composers who brought a minimum of knowledge and technology from abroad to develop their work here.
2. Movements created by sparse groups of composers and performers who were interested in the production and promotion of contemporary music. In spite of discontinuity and lack of support, these groups managed to impose themselves firmly and powerfully on the cultural panorama of their times, conquering a considerable audience and unusual visibility in the media.

Certain musicologists may assert that Brazilian electroacoustic music, like any other 'serious' genre, has been imported directly from Europe. I shall limit myself to quoting Conrado Silva:

Yes indeed. It [electroacoustic music] has been imported, that is, it was invented in the metropolis and then brought into the country. The popular interrogative reply poses itself: what music has not been? [...] If we think carefully we shall see that everything we now call music has been brought in by the European colonizer in one way or another. (This includes the introduction of African slaves, a fundamental contribution to our popular rhythms, which were present, in embryo or even ready-made, in the musics of their original cultures. In truth, little of really autochthonous remains: the Indian music made by the natural inhabitants of these lands is hardly known and seldom studied, rejected a priori by our Europeanizing intelligentsia as primitive, since it does not fit into the melodic/harmonic/rhythmic/expressive models that it imports shamelessly.

A doubt would nevertheless remain to torture the complete chauvinist: what if the Indian groups did not originate here? One discusses today whether the most ancient peoples — Mayan Quechuas — would not have come from other continents...

Those musicians whose names I have cited here have been responsible for the starting of electroacoustic music practices in Brazil. The present article nevertheless represents preliminary research and information is still emerging that will eventually enrich and complement the panel sketched herein.

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