

## FROM THE OTHER SIDE: ABOUT THE HISTORY OF E-ART IN LATIN AMERICA

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### Abstract

Who tells history? Who knows about it or who has the opportunity to do it? We can find multiple versions about the computer art history, most of those with subtle differences, but it has been unusual -until recently- to find references pointing to countries out of a small group from Europe and North America. Can we change the way history is being told? Do we have something different to tell? Why should we invest time and effort on it? Several projects have been developed to change the current biased situation. The Latin American Electroacoustic Music Collection, hosted by The Daniel Langlois Foundation for Art, Science and Technology, represents an example of the relevant role and the impact that the archival of electronic artworks and its public access can play in having another perspective about history.

Keywords: electronic art history; electroacoustic music; archiving; Latin America; art, culture and society

### 1. Introduction

The journey from the cultural memory and the ethical concerns to the practical strategies on preservation and the impact of disseminating knowledge generated by computer art has been navigating a sinuous road.

Computer art's memory has been partially dead, or maybe deaf or blind, or simply looking to the other side, perhaps to avoid the perception that the so-called digital revolution has reached most of the known world and that history does not only happen in a few "central" countries. The desire for being a cultural lighthouse as much as the guardian of the "right values" and the "significant art" should not take us all to mislead that intelligence and sensibility belongs to a few.

Who tells history? Who knows about it or who has the opportunity to do it? We can find multiple versions about the computer art history, most of those with subtle differences, but it has been unusual -until recently- to find references pointing to countries out of a small group from Europe and North America. Inequalities have always existed and if we want to see a change, probably we will need to work hard ourselves to produce new results. There are many lost and hidden stories about computer art that probably should be part of the official history and not just left aside. When the people is developing new ideas and concepts, creating artworks, researching and discovering or inventing, we expect someone will take care of keeping the memory of all that for us but sometimes it simply doesn't happen and when we look around after a while, it seems that the history has not been the one we thought it was and we remember, but a different one that is being told by others.

Between the obsession for archiving everything and the difficulty and strong responsibility of deciding what to preserve, the opportunity to archive computer art makes us face a challenge involving from technical issues to political, social, cultural and economical aspects.

How many histories can be told about the same subject? To who their narrative is directed? Today, the digital divide could be not linked to who has access to the web but to who dominates the inclusion of content or develop the strategies to keep our attention on certain places and not others. It looks like we are bombarded with cues



guiding us to consider that the art conceived by some cultures are the only ones to be recognized as valid.

The Daniel Langlois Foundation for Art, Science and Technology [1] in Montreal has been a leading organization focused on studying theoretical aspects related to preserving electronic and computer art, and actually archiving it. A number of major projects have been developed or hosted by this Foundation since the late 90s, including the Steina and Woody Vasulka Fonds, the 9 Evenings: Theatre and Engineering Fonds, the Collection of Documents Published by E.A.T. and the Latin American Electroacoustic Music Collection [2], among others.

## 2. Music and technology innovation in Latin America

The political and economic instability in most Latin American countries have been deeply affecting the life of its inhabitants for decades. Support for artistic activities has usually been postponed to solve urgent social problems. In spite of that, the development in the region of the electronic arts in general and the electroacoustic music in particular, is really astounding. To name but a few examples: Mauricio Kagel (Argentina, 1931 - Germany, 2008) composed eight electroacoustic studies in Argentina between 1950 and 1953, according to Hugh Davies' International Electronic Music Catalog published in 1968 [3]. Kagel was one the pioneer composers that were laying the foundations of a rich history of experimentation and creation in the region. Reginaldo Carvalho and Jorge Antunes in Brazil, León Schidlowsky and Juan Amenabar in Chile, Joaquín Orellana in Guatemala and Horacio Vaggione in Argentina are only some of the many names in the ocean of electroacoustic music creativity that has always been Latin America.

José Vicente Asuar composed between 1958 and 1959 in Chile his piece *Variaciones Espectrales* using only electronic sound sources. The Estudio de Fonología Musical was created in the University of Buenos Aires, in Argentina by Francisco Kröpfl and Fausto Maranca at the end of 1958. During those same years, also in Argentina, César Franchisena was experimenting with electronic sound sources at the National University of Córdoba radio station. He composed *Numancia*, ballet music on tape, in 1960. A landmark in the electronic music history of Latin America was the lab created in Buenos Aires during 1963 at the Centro Latinoamericano de Altos Estudios Musicales - CLAEM of the Instituto Torcuato Di Tella (the Electronic Music Laboratory was part of the Latin American Higher Studies Musical Center of the Torcuato Di Tella Institute). Peruvian composer César Bolaños created *Intensidad y Altura*, the first piece for tape produced at that lab, in 1964 [4].



Figure 1. The CLAEM Electronic Music Laboratory, 1964.

In Cuba, Juan Blanco composed *Música para danza* for tape in 1961, *Interludio*

con máquinas, also for tape, in 1963 [5] and Texturas for orchestra and tape between 1963 and 1964. Blanco composed around a hundred works using electroacoustic media, including music for mass public events and large venues, like the five-tracks 1968 tape piece *Ambientación Sonora*, played during 30 nights along La Rampa Avenue in Havana. Carlos Jiménez Mabarak composed in Mexico *El paraíso de los ahogados*, a piece on tape, in 1960.

Also in 1960, engineer Raúl Pavón built the prototype of a small electronic musical instrument featuring an oscillator with multiple waveform outputs, a white noise generator, filters, an envelope generator and a keyboard. Named *Omnifón* by Pavón, his creation was among the firsts voltage-controlled electronic sound synthesizers. Well before that, in the early 40s, the aforementioned composer Juan Blanco designed an innovative electronic instrument similar in concept to the Mellotron. His *Multiorgan* was based on 12 loops using magnetophonic wires. It predated the Mellotron -that is considered the predecessor of the digital sampler, an instrument that changed the way of doing music- by several years. Fernando von Reichenbach invented in Argentina the *Analog Graphic Converter* in the 60s. It was used to transform graphic scores -from pencil drawings done on a paper roll- into electronic control signals adapted to work with analog sound equipment. José Vicente Asuar produced in Chile a hybrid analog-digital computer system in the mid 70s, exclusively devoted to create music.



Figure 2. Partial view of the CLAEM's lab, redesigned in 1966 by Reichenbach.

Reichenbach redesigned CLAEM's Electronic Music Lab and invented several devices, such as the keyboard-controlled polyphonic third/octave and octave filter and a touch-controlled patch-bay that helped composers to simplify some cumbersome processes in the studio. Today, Reichenbach's inventions are starting to be internationally recognized.

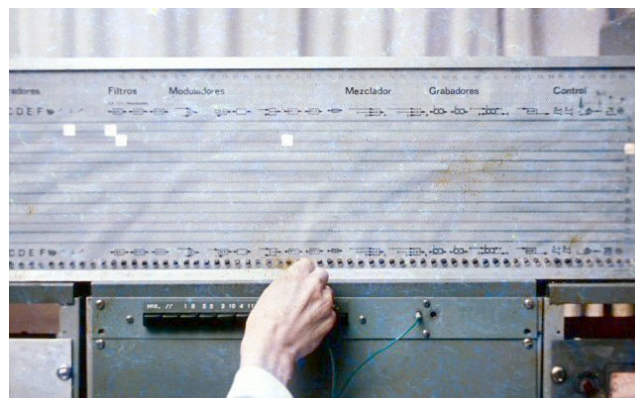


Figure 3. Touch-controlled patch-bay developed by Fernando von Reichenbach at CLAEM. It was built with spare parts from a telephone company.



Figure 4. The Analog Graphic Converter developed by Fernando von Reichenbach at CLAEM during the late 60s.

## 2.1 And meanwhile in Brazil...

Reginaldo Carvalho and Jorge Antunes were two of the pioneers opening new horizons to music creation and research in Brazil.

Reginaldo Carvalho (Guarabira, 1932 - Paraíba, 2013) composed *Si bemol* for tape, in 1956 [6]. This piece is considered the first work of *musique concrète* produced in Brazil. Carvalho created several pieces for tape during the late 50s and 60s, among them: *Temática* and *Troço I*, both 1956, and *Troço II*, 1957, all based on piano sounds. He started to experiment then with other sound objects and composed *Estudo I* working with glass sounds, 1958, and *Estudo II* using sounds from wooden objects, 1959. Between 1963 and 1964 he composed *Estudo III* based on water sounds, and in 1964 the *Estudo IV*, working with plastic objects. Dated 1963–1964 is *Alegria de Natal*, a piece for mixed choir and tape. Also from 1964 is *Fumaça: Ressonancias* and from 1965 *Piano Surpresa No.1* and *Piano Surpresa No.2* (or *Estudo incoerente*) for tape. In 1966 he composed *A Pulserinha*, *A Tesourinha*, *Cleta* and *Cemitério sem Flores*, and the following year *Caleidoscópico III*, all of these works for tape.

Between 1956 and 1959 Carvalho was composing his first *concrète* pieces on tape at the *Estudio de Experiencias Musicais* (Musical Experiences Studio) in Rio de Janeiro. In 1960 he moved to Brasilia, where he composed more *concrète* works at *Radio Educadora*. Later he returned to Rio de Janeiro where he founded the *Estudio de Musica Experimental* (EME) and produced some new electroacoustic works in 1966. At that time, Carvalho was appointed director of the *Conservatorio Nacional de Canto Orfeônico* of Rio de Janeiro, name that he changed by *Instituto Villa-Lobos*. This became an important center for studying and promoting new music.

Jorge Antunes (Rio de Janeiro, 1942) produced his first electroacoustic pieces working at his home studio. After *Pequena peça para mi bequadro e harmônicos*, 1961, he composed *Valsa Sideral* in 1962, considered the first piece using only electronic sound sources created in Brazil [7]. During 1963, Antunes composed *Musica para varreduras de frequência*, in 1964 *Fluxo luminoso para sons brancos I*, and the following year *Contrapunctus contra contrapunctus*. This last piece, together with *Valsa Sideral*, were included on the first analogue longplay of electroacoustic music released in Brazil. Still

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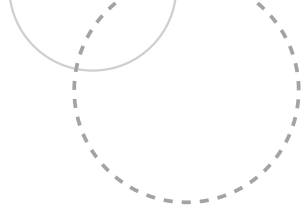
working at his home studio, during 1966 Antunes composed *Três Estudos Cromofônicos*: *Estudo para círculos verdes e vermelhos*, *Estudo para espirais azuis e laranjas*, and *Estudo para pontos amarelos e violetas*.

In 1967 Reginaldo Carvalho invited Antunes to teach at the Villa-Lobos Institute. Antunes moved then his home studio (*Estúdio Antunes de Pesquisas Cromo-Musicais*) to the Institute, composed *Canto selvagem* [8], and started teaching the first course in Brazil focused on electroacoustic music: *Curso de Música Concreta, Eletrônica e Magnetofônica* (*Concrete, Electronic and Tape Music Course*). All of the named works by Jorge Antunes are tape pieces, but during those years he also composed mixed and multimedia works, such as: *Ambiente I* for tape, lights, static and kinetic objects, incense and food, and *Canção da Paz* for baritone, piano and tape, in 1965; *Poema Camerístico* for speaker, bassoon, piano and tape, *Pequena Peça Aleatória* for male voice, piano and Theremin, *Dissolução* for strings orchestra and tape, and *Cromoplastofonia I* for full orchestra and tape, all four works in 1966; *Missa Populorum Progressio* for choir and tape, and *Insubstituível Segunda* for cello and tape, both in 1967; *Invocação em defesa da maquina* for percussion and tape, in 1968; and *Concertatio I* for vocal group, instruments and tape, in 1969, among other works.

Antunes built several of the electronic musical instruments and devices that he used to create his early pieces, such as: an electronic sawtooth wave generator, a spring reverberator, and two different Theremins. He was also one of the composers that had the opportunity to study at the legendary CLAEM of Buenos Aires during the 60s. At its lab he composed *Cinta Cita* for tape, 1969 and *Auto-Retrato Sobre Paisaje Porteño*, 1970 [9].



Figures 5 and 6. Jorge Antunes in the pioneering days of electroacoustic music in Brazil.



There were many other Brazilian composers working with electroacoustic media during the early years. Willy Corrêa de Oliveira composed several pieces for tape in 1959. Rogério Duprat and Damiano Cozzella composed *Música Experimental* in 1963, using a computer as an aid to calculate the structure of the piece. Gilberto Mendes composed *Nascemorre* for mixed choir, two typewriters and tape in 1963 and *Santos Football Music* for instruments (orchestra), audience, dinner and 3 magnetic tapes in 1969. Claudio Santoro composed *Aleatórios I, II, and III* for tape (audiovisual pieces) between 1966 and 1967. Jocy de Oliveira composed *Estoria II* for female voice, percussion and electroacoustic tape in 1967 and *Polinterações* for video, sculptures, projections and electronics in 1970. Each of them were experimenting, researching and creating new works, in some cases going beyond what we could identify as electroacoustic music and sound art pieces, producing multidisciplinary works considered very innovative at the time.

Born in Uruguay, in 1969 moves to Brazil Conrado Silva (Montevideo 1940 – Sao Paulo 2014). Researcher, educator and composer, Silva was a relevant figure of electroacoustic music in Brazil. Among the several electronic music studios he founded was one in Brasilia University that he started in 1969.

## 2.2 The Latin American Electroacoustic Music Collection

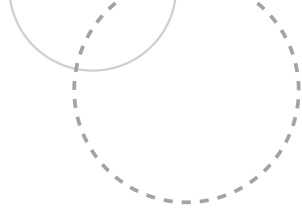
Unavailability of musical recordings, bibliography and almost any basic reference to the electroacoustic music activities that were developed since the early 1950s in several Latin American countries was commonplace around the mid-1970s. That situation did not change much during several decades.

In various Latin American countries, universities, state organizations and major private foundations have taken initiatives to support art research and the use of new media already in the early 60s, but most have stopped before developing the resources to document their processes and preserve the results. Many early tape compositions, for example, have been lost or the master recordings damaged.

The Latin American Electroacoustic Music Collection, with over 1,700 digital recordings of compositions by almost 400 composers [10], and accompanied by photographs, scores, interviews, a trilingual historical essay [11] and over 200,000 words in its database, represents an example of the relevant role that the archival of artworks and its public access can play in having another perspective about history. This is today a key resource in the field, being consulted extensively by people from around the world each month (e.g. researchers, composers, performers, musicologists, historians, artists and the general public) that can also contribute to transform the usual perception of “ownership” that exists in some countries with respect to the computer art history.

The archive includes compositions for fixed media (tape, DAT, CD, HD or similar) as well as mixed works for acoustic instruments or voices and fixed media or live electronics/interactive systems. There are also some multimedia works in the database. In the case of pieces for fixed media and other sound sources (e.g. mixed works), full recordings as well as “tape only” parts (i.e. fixed media) are preserved and catalogued. The archive also has audio and audiovisual recordings of interviews [12] to composers and technical innovators (e.g. Manuel Enriquez from Mexico, Alberto Villalpando from Bolivia, Edgar Valcarcel from Peru, Alfredo del Mónaco from Venezuela) as well as photographs, videos and some scores (e.g. by Alcides Lanza from Argentina, Javier Alvarez from Mexico, Milton Estevez from Ecuador, Edson Zampronha and Jônatas Manzolli from Brazil).

From a technical perspective, the archiving of audio material went through a myriad problems: recovering from massive hard disk crashes, finding analog tape recorders with old track formats, re-digitizing material to correct severe DC offsets in brand-new equipment, computer operating systems and FireWire conflicts, etc. Defining how best to work with very noisy old recordings was another challenge (a few pieces were



processed using an advanced de-noise system to moderate hiss, always preserving the original recording and following the composer's advice). The bulk of the process was done between 2003 and 2005 at the Langlois Foundation, working with three different computers and nine hard disks to manage the audio and visual files, the database and the large amount of info as well as the daily international communications.

Worth mentioning that while the recording quality of some music stored on old analog tape could have suffered through the years, digital technologies for recording storage were the ones presenting the most difficult challenges. For example, some DATs (Digital Audio Tapes) lost part of their recordings and only a loud digital noise was in place of the music. In those cases the problem was not only a poor quality (e.g. because of hiss or the loss of high frequencies) but a complete lack of the recorded signal, without any possibility to recover the original material.

There are 1,723 compositions preserved as digital audio -with CD quality- in the database. While all is available for listening to researchers who ask for an access code (to avoid copyright infringement) contacting the Langlois Foundation, 558 works from those are freely available and can be listened to by the general public online. The database has also over 200,000 words, and there are multiple ways to find the information in there. The digital audio recording of a composition can be found by its title, the name of the composer, the country linked to that composer, the year or decade when the work was composed, etc. In addition, there are two playlists to access and listen to the compositions: one sorted alphabetically by the last name of the composer [13], the other sorted chronologically, following the year the piece was composed [14]. Program notes, instrumentation, production studio, version, composer's bio and more have been also included for each work when the information was available. Part of that comes from two previous reports I wrote commissioned by UNESCO, between 2002 and 2003: *Historical Aspects of Electroacoustic Music in Latin America: From Pioneering to Present Days* [15] and *La música electroacústica en América Latina* [16]. They were published online and are available through the UNESCO's Digi-Arts knowledge portal. These texts include references to hundreds of composers who were born or pursued a portion of their professional careers in Latin America: 191 from Argentina; 14 from Bolivia; 90 from Brazil; 39 from Chile; 39 from Colombia; 5 from Costa Rica; 44 from Cuba; 3 from the Dominican Republic; 11 from Ecuador; 5 from El Salvador; 6 from Guatemala; 73 from Mexico; 3 from Panama; 4 from Paraguay; 15 from Peru; 12 from Puerto Rico; 27 from Uruguay; and 35 from Venezuela.

This is one of the most visited and consulted collections of the Daniel Langlois Foundation.

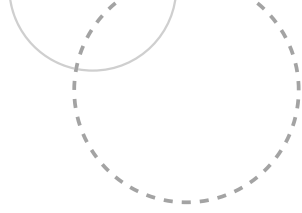
### 3. Final words

The Latin American Electroacoustic Music Collection has recovered and made visible (and listenable) the creative work of many electronic artists otherwise almost forgotten. It has defied the hegemony of the electronic art history narrative, helping to break some barriers and slowly shifting and widening the way the history of electroacoustic music is been understood.

Archiving and disseminating electronic and computer art history findings is crucial to comprehend the present and to build our future.

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## About the author

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