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# Something Lost, Something Hidden, Something Found: electroacoustic music by Latin American composers

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**Electroacoustic music has been of great interest to Latin American composers since its inception. Hundreds of composers have been working in this field, creating thousands of pieces. However, there is a significant lack of information and recordings in this respect, and little research has been conducted in this area until recently. One step forward to advance the exploration of a somewhat lost sound world is The Latin American Electroacoustic Music Collection, a documentation, preservation and dissemination project, developed by the author.**

## 1. INTRODUCTION

Latin America has been a fertile region for electroacoustic music creation, but most compositions remain unknown except for an initiated few. The same situation applies to basic information about these works and their composers. In spite of the strong and rich artistic production, there are not many traces in existence of contemporary art practices during recent decades regarding those fields involving electronic technologies. Preservation and documentation, and hence memory, do not seem to be essential in most countries of the region.

Even in state-supported centres with hundreds or thousands of hours of musical recordings, specialised libraries, and major human and technical resources, there are unacceptable difficulties for public access to this music and its related resources. This situation should be reversed, opening the 'knowledge box' where part of our culture is hidden.

An amazing number of electroacoustic works have been produced by Latin American composers over the last decades. Experience in the field began in some countries around the early 1950s; also, technical innovations were developed in Argentina, Cuba, Mexico and other countries in these pioneering years. Several centres devoted to electroacoustic music study and production were already open in the 1960s and early 1970s. What happened then to all the music recordings, the research projects, the technical resources, the experience and the accumulated knowledge? There is no simple answer, but the complex relationships

between the economic, political, cultural and social spheres of the time provide a clue.

What appeared to be a paradox during my initial years of research later became almost a constant. One could find composers' names and the titles of their works, but usually not the music or its documentation. It took me a very long time to obtain only a few electroacoustic music recordings by Latin American composers, even from people living in my own country or city. Through the years, I started to discover a rich music world that had been partially lost, and partially hidden.

## 2. THE PIONEERING YEARS

The political and economic instability in most Latin American countries has 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, electroacoustic music development in the region has been really astounding. The vast production of electroacoustic music in Argentina finds some explanation in the sustained activities held in that country since the 1950s, the availability of technological resources in centres created during the 1960s, 1970s and 1980s, and the avidity of many composers to explore new musical trends. Brazil, Cuba and Mexico also show a large production of electroacoustic music as well as interesting activities in related fields. In Chile there already were pioneering works in the 1950s, but there was not strong commitment by many composers until a few years ago. In Colombia and Venezuela there were also pioneering activities during the 1960s, but again not much happened until the 1980s. In Uruguay, activities can be traced back to the early 1960s. The same is true in Guatemala, but only a few composers have been working with electroacoustic techniques since then. Composers from Bolivia, Ecuador and Peru using electroacoustic media during the 1960s and 1970s worked mostly out of their native countries. In places like Costa Rica, the Dominican Republic, El Salvador and Paraguay there have been only sporadic activities until recently.

### 2.1. Argentina, Chile, Brazil

Mauricio Kagel (Buenos Aires, 1931) composed eight electroacoustic studies in Argentina between 1950 and 1953 (Davies 1968). Then, from 1953 to 1954, he created *Música para la Torre* (also known as *Musique de tour*), a sonorisation of some 108 minutes which included an essay on *musique concrète*, for an industrial exhibition in Mendoza. He was trying to establish an electronic music studio in Argentina during the 1950s, but he could not carry out that project. Kagel moved to Germany in 1957, where he has been living since then. Some of his early works are: *Transición I* for electronic sounds, 1958; *Transición II* for piano, percussion and two tape recorders, 1958–1959; *Antithese*, versions for electronic and public sounds, and play for one actor with electronic and public sounds, both 1962; *Phonophonie* for one baritone solo, one off-stage voice, and two tapes, 1963; *Tremens*, scenic montage of a test for two actors, electrical instruments, percussion, tapes and slides projections, *Variaktionen über Tremens* for two actors, tape and slide projections (or film projections *ad lib.*), and *Musik aus Tremens* for electric guitar, electric bass guitar, electric double bass, Hammond organ, one percussionist and tape, all three pieces 1963–1965; *Camera Oscura*, chromatic play for light sources and actors (three actors, three loudspeaker groups, two or three tape players, three spotlights and three silent colour films), 1965.

Kagel was not the only composer in Argentina interested in the possibilities of electroacoustic technologies and techniques during the pioneering years. Tirso de Olazábal (Buenos Aires, 1924–1960) composed in Paris *Estudio para percusión* for tape, 1957, and organised one of the first concerts of electroacoustic music in Argentina, 1958. Rodolfo Arizaga (Buenos Aires, 1926 – Escobar, 1985) studied Ondes Martenot in Paris with Ginette Martenot and introduced the instrument in Argentina when he returned to the country during the mid-1950s. He composed pieces such as: *Délires* for chamber orchestra, choir and Ondes Martenot, 1954–1957; *Sonata Breve* for piano and Ondes Martenot, and *El Organillo* for solo Ondes Martenot, both 1958.

During the late 1950s, César Franchisena (General Pinedo, Chaco, 1923 – Córdoba, 1992) was experimenting with electronic sound sources at the National University of Córdoba radio station, and composed *Numancia*, ballet music for tape, in 1960. At the end of 1958, Francisco Kröpfl (Timisoara, Romania, 1931) together with Fausto Maranca founded the Estudio de Fonología Musical (Musical Phonology Studio) at the University of Buenos Aires. At that lab, Kröpfl composed his first works using electronic sounds: *Ejercicio de Texturas* and *Ejercicio con Impulsos*, between 1959 and 1960. Horacio Vaggione (Córdoba, 1943) started to experiment with electroacoustic

technologies in Córdoba while he was still very young. He composed *Música electrónica I* for tape in 1960, and *Ensayo sobre mezcla de sonidos*, *Ceremonia* and *Cantata I*, all three in 1961.

Some Argentinian composers were also working in European and American studios: Hilda Dianda (Córdoba, 1925) composed *Dos estudios en oposición* for tape in Italy, 1959; Mario Davidovsky (Médanos, Buenos Aires, 1934) composed *Electronic Study No.1* for tape, 1960, *Electronic Study No.2* for tape, 1962, *Contrastes* for string orchestra and tape, 1964, and his well-known series of *Synchronisms*, at the Columbia-Princeton Electronic Music Center in New York; Alcides Lanza (Rosario, 1929) composed *exercise I [1965-V]* for tape, 1965, and *plectros II [1966-I]* for tape and piano, 1966, at the same centre; and Edgardo Cantón (Los Cisnes, Córdoba, 1934) composed *Animal Animal*, 1962, *Etude* and *Tout finit par tomber dans le même trou*, 1963, and *Voix Inouïes*, 1965, in France.

In Buenos Aires, the Centro Latinoamericano de Altos Estudios Musicales of Instituto Torcuato Di Tella (Latin American Higher Studies Musical Centre of Torcuato Di Tella Institute), or CLAEM, was a meeting point for students and composers from Latin America. The Argentinian composer Alberto Ginastera founded the Centre in 1962. Composers from Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Peru and other Latin American countries attended courses and workshops at CLAEM taught by internationally recognised composers, such as Luigi Nono, Iannis Xenakis, Bruno Maderna, Aaron Copland, Olivier Messiaen, Vladimir Ussachevsky and Luigi Dallapiccola, to name but a few.

Peruvian composer César Bolaños was in charge of the first CLAEM's electronic music lab. Working at CLAEM since the mid-1960s, the engineer Fernando von Reichenbach (Buenos Aires, 1931 – Buenos Aires, 2005) played a major role in technological development until the Centre was closed in 1971. He redesigned the electronic music lab (figure 1) and invented several devices for the production and performance of electroacoustic and multimedia works, such as the Convertidor Gráfico Analógico (Analogue Graphic Converter), used to convert graphic scores from a paper roll into electronic control signals adapted for musical uses with analogue instruments, capturing the original drawing images with a camera. Chilean composer Gabriel Brncic (Santiago, 1942) used the Analogue Graphic Converter in *Dialexis* for percussion and tape, 1966–1967. The first tape piece produced with the converter was *Analogías Paraboloides* by Pedro Caryevschi, composed in 1970.

Electroacoustic music was also active in other cities around Argentina during the 1960s. The Centro de Música Experimental (Experimental Music Centre) was founded at the National University of Córdoba in 1965. Composers Oscar Bazán (Cruz del Eje, Córdoba, 1936–2005), Graciela Castillo (Córdoba, 1940), Pedro Echarte



Figure 1. The Electronic Music Lab at CLAEM during the late 1960s, after Fernando von Reichenbach redesigned it. Photo by César Bolaños. 2005 © The Daniel Langlois Foundation for Art, Science and Technology. Used by permission.

(Bell Ville, Córdoba, 1942 – Ibiza, Spain, 2005), Carlos Ferpozzi (Córdoba, 1937), Virgilio Tosco (Achiras, 1930 – Córdoba, 2000), and, for a certain length of time, Horacio Vaggione, were members of the Centre (figure 2).

In Chile, several composers had their first experiences using electroacoustic media during the 1950s. León Schidlowsky (Santiago, Chile, 1931) composed *Nacimiento* for tape, in 1956, using *concrète* sounds. The same year, Juan Amenabar (Santiago, 1922 – Santiago,

1999) and José Vicente Asuar (Santiago, 1933) were experimenting at Radio Chilena (Chilean Radio) in Santiago. The Taller Experimental de Sonido (Experimental Sound Workshop) was established at the Catholic University in Santiago by Amenabar and Asuar, together with a small group of composers: León Schidlowsky, Juan Mesquida, Raúl Rivera, Abelardo Quinteros, Eduardo Maturana and Fernando García, in 1957, and was active for around one year. García

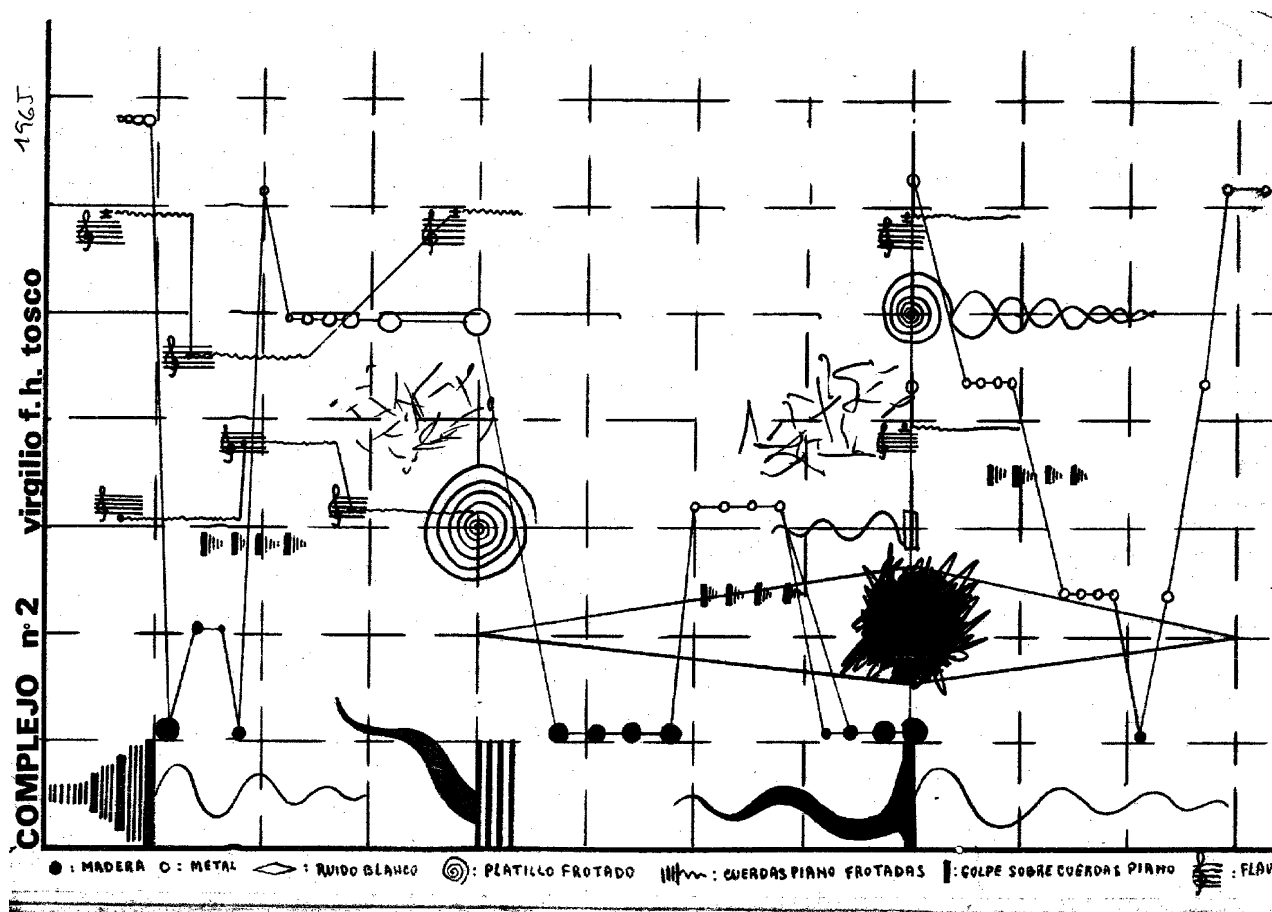


Figure 2. Virgilio Tosco's *Complejo No.2* for recorders, piano, percussion and electronically generated white noise, 1965. © Lidia Formiga de Tosco, reproduced by permission.

wrote about the Workshop: ‘... the idea was not to talk about music and make academic concerts, it was to learn about the mysteries of electronics’ (García 2002).

Amenabar completed *Los Peces*, his first piece for tape, in 1957. He used recorded piano sounds as the only material for his work. To obtain a civil engineering degree, Asuar wrote a thesis about *Mechanic and Electronic Generation of Musical Sounds*. He started to build the first electronic music studio of Chile in 1958, at the Catholic University. With the equipment of that lab he produced *Variaciones Espectrales*, probably the first piece composed in Latin America using only electronic sound sources. The composition was premiered in 1959 at Teatro Antonio Varas, in Santiago.

Composers Gustavo Becerra-Schmidt (Temuco, 1925) and Samuel Claro (Santiago, 1934 – Santiago, 1994) were also closely related to the beginning of electroacoustic music in Chile. The *Revista Musical Chilena* (Chilean Music Journal) published its first article on electronic music, *¿Qué es la música electrónica? (What is electronic music?)*, by Gustavo Becerra-Schmidt, in 1957.

In Brazil, Reginaldo Carvalho (Guarabira, 1932) composed *Si bemol* for tape, in 1956. This piece is considered the first *musique concrète* work produced in Brazil. Carvalho composed several pieces for tape, such as *Temática* and *Troço I*, both 1956, and *Troço II*, 1957. All of these works were based on piano sounds. Carvalho 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 during 1964 the *Estudo IV*, working with plastic objects. Dated 1963–1964 is *Alegria de Natal*, a piece for mixed choir and tape.

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*, 1962, considered the first piece using only electronic sound sources created in Brazil. During 1963, Antunes composed *Música 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 long play of electroacoustic music released in Brazil. Still 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 Villa-Lobos Institute. Then Antunes moved his home studio (Estúdio Antunes de Pesquisas Cromo-Musicais) to the Institute, composed *Canto selvagem*, and started teaching the first course in Brazil focused on electroacoustic music: Curso de Música Concreta, Eletrônica e

Magnetofônica (*Concrète*, Electronic and Tape Music Course). All of the named works by Jorge Antunes are tape pieces, but he also composed mixed and multimedia works, such as: *Ambiente I* for tape, lights, static and kinetic objects, incense and food, 1965; *Canção da Paz* for baritone, piano and tape, 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 1966; *Missa Populorum Progressio* for choir and tape, and *Insubstituível Segunda* for cello and tape, both 1967; *Invocação em defesa da máquina* for percussion and tape, 1968; and *Concertatio I* for vocal group, instruments and tape, 1969, among many other works.

There were other Brazilian composers working with electroacoustic media during the early times. Willy Corrêa de Oliveira (Recife, 1938) composed several pieces for tape in 1959. Rogério Duprat (Rio de Janeiro, 1932) and Damiano Cozzella (Sao Paulo, 1930) composed *Música Experimental* in 1963, using a computer as an aid to calculate the structure of the piece. Gilberto Mendes (Santos, 1922) composed *Nascermorre* for mixed choir, two typewriters and tape, 1963; and *Santos Football Music* for instruments (orchestra), audience, dinner and 3 magnetic tapes, 1969. Claudio Santoro (Manaus, 1919 – Brasília, 1989) composed *Aleatórios I, II, and III* for tape (audiovisual pieces), between 1966 and 1967. Jocy de Oliveira (Curitiba, 1936) composed *Estoria II* for female voice, percussion and electroacoustic tape in 1967; and *Polinterações* for video, sculptures, projections and electronics in 1970.

## 2.2. Mexico, Cuba, Guatemala

Carlos Jiménez Mabarak (Tacuba, 1916 – Mexico City, 1994) is considered the first Mexican composer to have produced a tape piece: *El paraíso de los ahogados*, 1960. However, according to the complete list of works by Conlon Nancarrow (Texarkana, United States, 1912 – Mexico City, 1997) researched by Kyle Gann, the American-born composer was experimenting during the 1950s with a tape recorder to see ‘if he could get the rhythms he wanted by tape manipulation’ (Gann 1997); hence his untitled *musique concrète* piece could be the first work of that kind realised in Mexico.

Around 1960, Raúl Pavón (Mexico City, 1930), an engineer interested both in electronics and music, designed a small electronic musical instrument that featured an oscillator with multiple waveform outputs, a variety of filters, an envelope generator, a white noise generator, a keyboard and other devices. Pavón named that instrument the Omnifón, and it was one of the first electronic sound synthesizers ever built.

Many Mexican composers were working with electroacoustic media during the pioneering years. Eduardo Mata (Mexico City, 1942–1995) composed *Los Huesos Secos* for tape in 1963; Jorge Dájer (Durango, 1926) composed *Acuarimántima* for narrator and tape in 1963; Guillermo Noriega (Mexico City, 1926) composed *Estudio sobre la soledad* in 1963, and *Seis estudios sobre el espacio y el tiempo* in 1964; José Antonio Alcaraz (Mexico City, 1938) composed *Fonolisia* for tape in 1964; Blas Galindo (San Gabriel, 1910 – Mexico City, 1993) composed *Letanía erótica para la paz* for choir, soloists, orchestra and tape in 1965, and *Tres sonnetes* for wind quintet and tape in 1967; Héctor Quintanar (Mexico City, 1936) composed *Aclamaciones* for choir, orchestra and tape in 1967, *Sideral I* for tape in 1968, and *Símbolos* for chamber group, tape, slides and lights in 1969. Carlos Chávez (Mexico City, 1899 – Mexico City, 1978) used electronic sounds on tape in his ballet music *Pirámide*, 1968; Francisco Nuñez (La Piedad, Michoacán, 1945) composed *Los logaritmos del danés* in 1968; Alicia Urreta (Veracruz, 1930–1986) composed *Ralenti* for tape in 1969; Mario Lavista (Mexico City, 1943) composed *Espacios imaginarios* for tape in 1969; and Manuel Enriquez (Ocotlán, Jalisco, 1926 – Mexico City, 1994) composed *Viols (Móvil II)* for violin and tape between 1969 and 1972.

The first Electronic Music Lab in Mexico opened, as a part of the Composition Workshop at the National Conservatory of Music, in January 1970. Quintanar was its Artistic Director and Pavón the Technical Director. Modular Buchla and Moog synthesizers were part of the equipment.

In Cuba, the main driving force behind the development of the electroacoustic music field has been Juan Blanco (Mariel, 1919). In 1942, he registered the description and design of the Multiórgano, a musical instrument based on twelve magnetophonic wire loops running through a playback head that could be loaded with twelve chromatically recorded voices, musical instruments or other sounds.

Blanco composed his first electroacoustic piece for tape in 1961 using one oscillator and tape recorders: *Música para danza*. Since then he has created around 100 works using electroacoustic media. Some other of Blanco's early works are: *Estudios I y II*, 1961–1962; *Ensamble V*, 1962–1963; *Interludio con Máquinas* and *Ensamble VI*, 1963, all four works for tape; and *Texturas* for orchestra and tape, 1963–1964. In 1964 he organised the first public concert with electroacoustic music on the island at the National League of Cuban Writers and Artists (Unión Nacional de Escritores y Artistas de Cuba), premiering his works *Estudios I y II* and *Ensamble V*.

Many Cuban composers have been working with electroacoustic media in their music. A few examples include: Calixto Alvarez (Santa Isabel de las Lajas,

1938), Sergio Barroso (Havana, 1946), Aurelio de la Vega (Havana, 1925), Carlos Fariñas (Cienfuegos, 1934 – Havana, 2002) and Orlando Jacinto García (Havana, 1954). While Barroso, de la Vega and García have pursued most of their careers off the island, Fariñas has been active composing and promoting electroacoustic music in Cuba since the early 1970s.

In Guatemala, Joaquín Orellana (Guatemala City, 1937) has been working with electroacoustic media in his music since the early 1960s. He has composed: *Contrastes* (ballet) for orchestra and tape, 1963, producing the tape part at a commercial recording studio in Guatemala City; *Metéora* for tape, 1968, tape realised in Buenos Aires at CLAEM; *Humanofonia* for orchestra and tape and *Humanofonia* for tape only, both 1971, tape part also produced at a commercial recording studio in Guatemala City; *Malebolge* and *Entropé*, 1972, both for tape; among other works involving new media.

The Gandarias brothers, David (Guatemala City, 1952) and Igor (Guatemala City, 1953), have also been composing with electroacoustic media since the 1970s.

### 2.3. Bolivia, Ecuador, Peru, Uruguay

Bolivian composer Alberto Villalpando (La Paz, 1942) began his experience with electroacoustic media in the early 1960s while he was studying in Buenos Aires. Together with Argentinean composer Miguel Angel Rondano he created the music for a painting exhibition by Carlos Squirru in 1963, and another sonorisation, *La Muerte*, in 1964. Back in Bolivia in 1965, Villalpando kept working using tape techniques in his music. He composed two mixed pieces in 1970: *Mística No. 3* for double string quartet, French horn, flute, double bass and tape, and *Mística No. 4* for string quartet, piano and tape. Both works use the same tape part, produced with a Synthi synthesizer.

Another Bolivian composer, Florencio Pozadas (Potosí, 1940–1970), also composed his first work involving electroacoustic media in Buenos Aires: *CM-Op.1* for percussion and tape, 1968.

Ecuadorian composer Mesías Maiguashca (Quito, 1938) has been working extensively with electroacoustic media in his music since the 1960s. He has studied music in Quito, New York (Eastman School, 1958–1963), Buenos Aires (CLAEM – Instituto Torcuato di Tella, 1963–1965) and Cologne (Musikhochschule Köln, 1966–1968). Maiguashca composed *Segundo cuarteto de cuerdas* for string quartet and live electronics, and *Dort wo wir leben* for *concrète* and electronic sounds on tape, both in 1967; *Hör Zu* for tape, in 1969; *A Mouth-piece* for six vocalists and electronics, in 1970; *Ayayayayay* for *concrète* and electronic sounds on tape, in 1971; and *Übungen* for violin, clarinet, cello and three synthesizers, in 1972–1973. He has been living in Germany since the mid-1960s.

Any history about the pioneering years of electroacoustic music related to Peru always starts with two names: César Bolaños (Lima, 1931) and Edgar Valcárcel (Puno, 1932). However, both composers carried out all their activities in that field outside their native country due to the lack of resources there. The only local references to the early days of electroacoustic music in Peru are related to José Malsio (Lima, 1925), who was experimenting in Lima with some Philips equipment around 1963.

Bolaños studied in Peru, the United States and then Argentina, where he was also in charge of the first Electronic Music Lab created at CLAEM in Buenos Aires. There, Bolaños composed his first tape piece, *Intensidad y Altura*, 1964, which was also the first electroacoustic music composition produced at that Centre. During the following years he created several tape and mixed pieces, including large multimedia performances, such as: *Interpolaciones* for electric guitar and tape, 1966; *Alfa-Omega* for two reciters, theatrical mixed choir, electric guitar, double bass, two percussionists, two dancers, magnetic tape, projections and lights, based on biblical texts, 1967; *I-10-AIFG/Rbt-I* for three reciters, French horn, trombone, electric guitar, two percussionists, two technical operators (for the light system and the six radios), nine synchronised slide projectors, magnetic tape, amplification for the acoustic instruments and black lights for the individual scores, 1968; and *Flexum* for magnetic tape and wind, string and percussion instruments, 1969.

Bolaños was also active researching the application of computers in musical creation. He worked together with the Argentinean mathematician Mauricio Milchberg in developing compositional structures, having the support of Honeywell Bull and later of Olivetti Argentina. ESEPCO, the generic name they used for those works, stands for 'computer-assisted sound-expressive structure' ('estructura sonoro-expresiva por computación'). *Sialoecibi (ESEPCO I)* for piano and one reciter-mime-actor, and *Canción sin palabras (ESEPCO II)* for piano with two performers and tape, both 1970, are two works representative of that period (figure 3). Bolaños went back to Peru during the early 1970s, without the possibility of continuing the developments he had started in the electroacoustic music field while working in Buenos Aires.

Edgar Valcárcel composed his first pieces using electronic sounds in 1967 at the Columbia-Princeton Electronic Music Center in New York: *Invenición* for tape, 1967, and *Canto Coral a Túpac Amaru* for choir, percussion and tape, 1968. In *Zampoña Sónica* for flute and electronic sounds, 1968–1976, Valcárcel also made use of electronic sounds he had produced during his stay at that studio. He composed *Flor de Sancayo* for piano and tape at the Electronic Music Studio of McGill University in Montreal, 1976 (figure 4). Like Bolaños, Valcárcel attempted to foster the musical creation with

electroacoustic media in his native country but it was not possible for him to develop his ideas.

Composers Coriún Aharonián (Montevideo, 1940) and Conrado Silva (Montevideo, 1940) began experimenting with electroacoustic media in Uruguay during the 1960s. After some tape works for theatre and short films, Aharonián composed *Hecho 2 (en tres partes y en re)*, a musical theatre piece for prepared piano, xylophonic claves, sine and square wave electronic generators, tubular bell, four idiophones and/or membranophones, six tape recorders, and paint brushes, 1966; and *Música para aluminios*, for three performers and tape, produced at SODRE radio station in Montevideo, 1967. While studying in Buenos Aires at CLAEM, Aharonián composed *Que* for tape, 1969.

Other Uruguayan composers were also studying and composing at CLAEM during the late 1960s, and created several tape pieces in 1970: Antonio Mastrogiovanni (Montevideo, 1936), *Secuencial II*; Ariel Martínez (San José, 1940), *El glotón de Pepperland*; Beatriz Lockhart (Montevideo, 1944), *Ejercicio I*; and León Biriotti (Montevideo, 1929), *En la morada de la muerte*.

In 1964, Conrado Silva composed *Music for ten portable radios* during his stay in Germany, using computers to organise the compositional material for his piece. Back in Uruguay, he composed the tape music for *Antígona*, a play by Sophocles, 1965. Silva has been living in Brazil since 1969, where he has founded several electronic music studios: Brasilia University, 1969; University of Sao Paulo State, 1977; Santa Marcelina Arts School, 1985; Syntesis, 1986.

Aharonián, Silva and José María Neves (São João del Rei, Brazil, 1943–2002) created the Cursos Latinoamericanos de Música Contemporánea (Latin American Courses for Contemporary Music), a regional cooperative initiative which was a landmark of new music in the region. These crash-workshops were held between 1971 and 1989 in different Latin American cities, such as: Cerro del Toro, Uruguay, in 1971, 1972, 1974, 1975 and 1986; Buenos Aires, in 1976 and 1977; São João del-Rei, in 1978 and 1979; Santiago de los Caballeros, Dominican Republic, in 1981; and San Cristóbal, Venezuela, in 1985. Students from over seventeen countries attended courses taught by well-known composers from the three Americas and Europe.

#### 2.4. Colombia, Venezuela, Puerto Rico, Dominican Republic

*Ensayo Electrónico* by Fabio González Zuleta (Bogotá, 1920) is considered the first electronic piece created in Colombia. It was produced in 1965 at the studios of the National Radio of Bogotá, using sine wave generators. Also dated 1965 is *Cantico delle creature*, a mixed piece for bass, two choirs, winds, low strings, percussion and tape by Colombian Blas Emilio Atehortúa (Santa

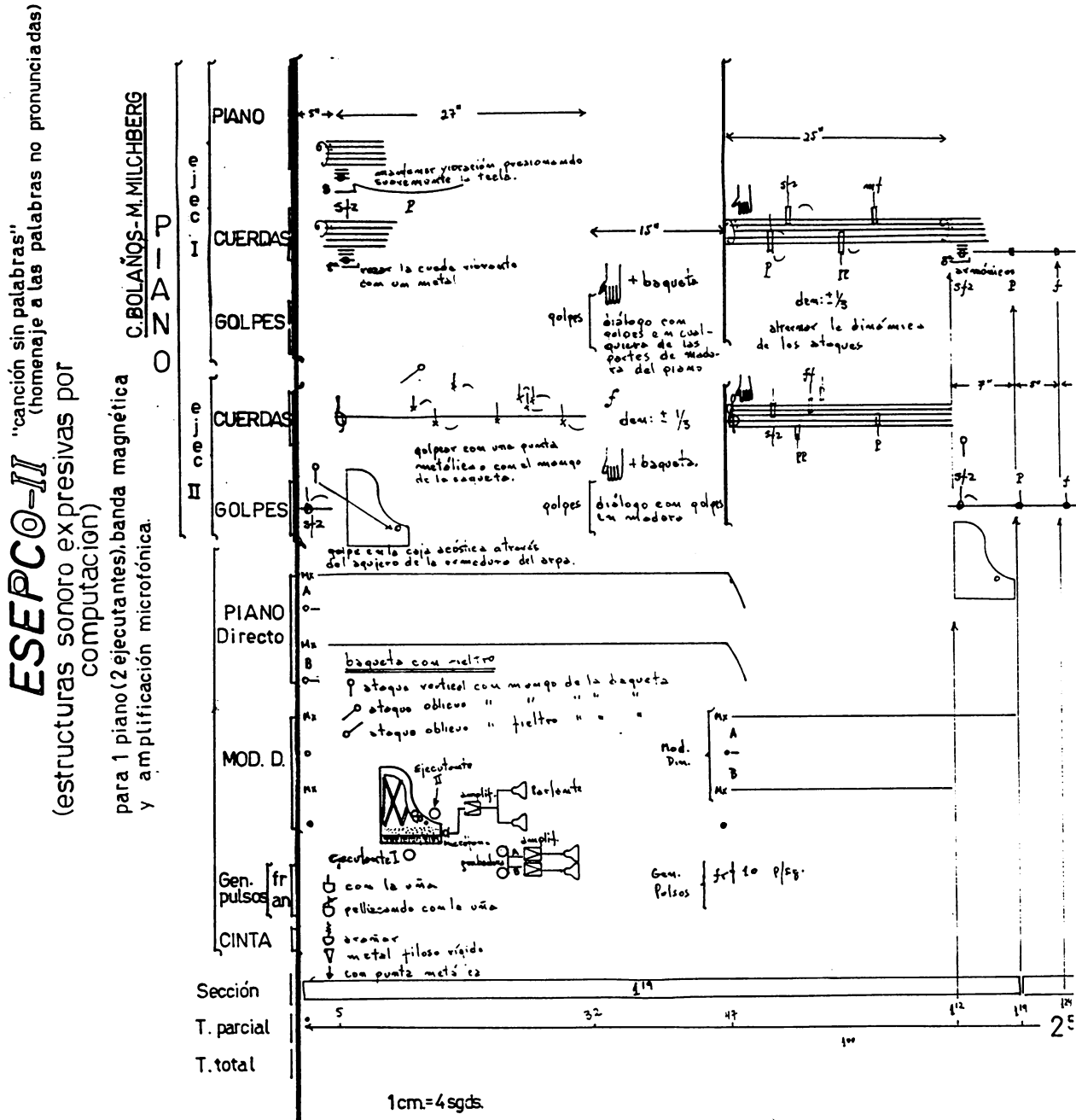


Figure 3. César Bolaños's *Canción sin palabras* (ESEPCO-II) for piano and tape, in collaboration with Mauricio Milchberg, 1970. Score excerpt: initial minutes. © the composer, reproduced by permission.

Elena, 1933); the tape part was also produced at the National Radio of Bogota. Later, Atehortúa composed *Syrygma I* for tape at CLAEM, Buenos Aires, in 1966.

Jacqueline Nova (Ghent, Belgium, 1935 – Bogota, 1975) was the most active and prolific Colombian composer working with electroacoustic media during the 1960s and 1970s. She won a scholarship to study in Buenos Aires at CLAEM during 1967 and 1968. Some of her works are: *Resonancias I* for piano and electronic sounds, 1968; *Luz-sonido-movimiento* for tape, and *14-35* for orchestra and processed voices on tape, both

1969; *Sincronización* for voice, piano, harmonium, percussion and electronic sounds, and *HK-70* for piano, double bass, percussion and pre-recorded materials, both 1970; *Pitecanthropus* for symphonic orchestra, voices and electronic sounds, 1971; *Hiroshima*, oratorio for symphonic orchestra, countertenor, contralto, sixteen female voices, choir and electronic sounds, and *Creación de la tierra* for processed voice on tape, both 1972.

In Venezuela, the National Institute of Culture and Fine Arts (INCIBA) asked Chilean composer and

**RETABLO I**  
"flor de sancayo"  
para piano y sonidos electronicos

edgar valcárcel  
montreal-1976

**Figure 4.** Edgar Valcárcel's *Flor de Sancayo* for piano and tape, 1976. Score excerpt: page 1. © the composer, reproduced by permission.

engineer José Vicente Asuar to organise the Estudio de Fonología Musical (Musical Phonology Studio) between 1966 and 1967. Working in that studio, Alfredo del Mónaco (Caracas, 1938) composed *Cromofonías I*, 1966–1967, and *Estudio electrónico I*, 1967–1968, both for tape. Later, del Mónaco moved to New York to study at the Columbia-Princeton Electronic Music Center from 1969 to 1974, where he composed pieces such as: *Metagrama* for tape, 1969–1970, *Estudio electrónico II* for tape, 1970; *Alternancias* for violin, viol, cello, piano and electronic sounds on tape, and *Dualismos* for flute, clarinet, trombone piano and electronic sounds on tape, both 1971; and *Syntagma (A)* for trombone and electronic sounds on tape, 1972 (Figure 5).

Puerto Rican Rafael Aponte Ledée composed in Buenos Aires *Presagio de pájaros muertos* for actor and tape in 1966. A few years later, the American composer Francis Schwartz created a small electronic music lab at the Music Department of the University of Puerto Rico. Carlos Vázquez (Mayagüez, 1952) has been composing extensively using electroacoustic media since the mid-1970s and has been the director of the aforementioned studio since 1978.

Only a few Dominican composers have been using electroacoustic media in their music. The most active in terms of electroacoustic music creation, performance and research has been Alejandro José (San Francisco de Macorís, 1955), who also taught the first electronic music courses on the island during the early 1980s.

### 3. DOCUMENTATION AND PRESERVATION

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 when I started to work on the field around the mid-1970s, and that situation has not changed much during the last decades. In various Latin American countries, universities, state organisations and major private foundations have taken initiatives from time to time to support art research and the use of new media, but most have stopped before developing the resources to document the processes and preserve the results. Many early tape compositions have been lost or the master recordings damaged. Fortunately, however, a large number of recordings could still be saved.

#### 3.1. The UNESCO Digi-Arts Reports

I have written two reports commissioned by UNESCO: *Historical Aspects of Electroacoustic Music in Latin America: From Pioneering to Present Days* and *La música electroacústica en América Latina*, between 2002 and 2003. They are now published online and available through the Digi-Arts Knowledge Portal (Dal Farra 2003).

These texts (summing over 110,000 words about electroacoustic music in Latin America) include references to hundreds of composers who were born or pursued a portion of their professional careers in the region: 191 from Argentina; 14 from Bolivia; 90 from



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The score consists of several systems of music. The first system starts at 0'' and ends at 19''. It features a trombone part with notes and rests, and an electronic part with various sound effects and textures. Dynamic markings include *pp*, *ppp*, *mp*, and *sff*. Performance instructions include *attact imperceptibly - even...* and *alt. temp. - even...*. The second system starts at 20'' and ends at 27''. It includes a tempo change to *♩ = 60* and dynamic markings like *mf*, *f*, *sff*, *mp*, *p*, and *pp*. The third system starts at 45'' and ends at 6''. It includes a *6''* time marker and dynamic markings like *pp*. The fourth system starts at 5'' and ends at 10''. It includes a *5''* time marker and dynamic markings like *pp*, *ppp*, *mf*, *f*, and *sff*. The fifth system starts at 10'' and ends at 15''. It includes a *10''* time marker and dynamic markings like *pp*, *ppp*, *mf*, *f*, and *sff*. The sixth system starts at 15'' and ends at 20''. It includes a *15''* time marker and dynamic markings like *pp*, *ppp*, *mf*, *f*, and *sff*. The score is marked with *START* and *STOP* and includes various performance instructions such as *Tenso...*, *calma...*, *al Derby*, and *via 'Derby'*.

Figure 5. Alfredo del Mónaco's *Syntagma (A)* for trombone and electronic sounds on tape. Score excerpt: page 2. © the composer, reproduced by permission.

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.

### 3.2. The Latin American Electroacoustic Music Collection

In order to keep safe and provide public access to the large number of recordings of musical works I had been gathering for more than twenty-five years, I started searching for a place where preservation of musical documents and related materials were both important and possible. Two consecutive grants as Researcher in Residence at the Daniel Langlois Foundation for Art, Science, and Technology during 2003 and ongoing work in 2004 and 2005 have allowed me to work for some twenty-eight months with recordings on open reel, analogue cassettes, DAT tapes, vinyl LPs and CDs from my personal collection of electroacoustic music by Latin American composers.

The audio files were digitised and/or converted from different formats, edited and baked as needed. To date, January 2006, there are 1,722 compositions (2,152 digital audio files) created by 380 composers preserved at the Foundation's Centre for Research and Documentation (CR+D). The Latin American Electroacoustic Music Collection (Dal Farra 2005) includes recordings of pieces for fixed media (e.g. tape) as well as mixed works for acoustic instruments or voices and fixed media, or live electronics/interactive systems. There are also over 200,000 words in information about the pieces and their composers at the Foundation's database (e.g. title, composer, year of composition, instrumentation, programme notes, production studio, version, duration, composer's bio, etc.), and several hours of interviews with pioneers of Latin American electroacoustic music that I have been recording since the 1980s.

From the 1,722 compositions archived: 1,685 are dated; 1,295 have biographical information of their composers in English and 132 in French; 1,034 specify the instrumentation (e.g. tape, or orchestra and live electronics); 496 indicate the production studio; 379 have information about the performers and/or place and date of the recordings (for the mixed pieces); and 267 have associated research notes. There are also 365 programme notes in English, 263 in Spanish and 36 in French.

A significant number of compositions from the mid-1950s to 2004 have been archived for preservation: 4 works dated between 1956–1959; 83 works dated between 1960–1969; 161 works dated between 1970–1979; 292 works dated between 1980–1989; 747 works dated between 1990–1999; and 393 works dated between 2000–2004. All recordings are available for listening and the information for consultation at the CR+D (Dal

Farra 2005: List of Compositions and Composers). Presently, a short selection of pieces, spanning fifty years of music creation, is also available for listening through the Foundation's website (Dal Farra 2005: Selection of thirty works). More compositions are going to be available for listening in the next few months.

### 3.3. Other initiatives

There are a few other initiatives to document electroacoustic music production in the region, but almost no actions to preserve the recordings and to make them available for listening. I list some projects I am aware of below.

In Colombia, the Biblioteca Luis Ángel Arango has online biographies, scores and musical fragments from Colombian composers, some of which are electroacoustic music works (BLAA 2005). The information is available in Spanish.

The Brazilian Electroacoustic Music Research Group has developed a website using Igor Lintz-Maues 1989 Master's thesis (Lintz-Maues 1989–2002) about electroacoustic music in Brazil from 1956 to 1981. This valuable source of information is written in Portuguese and includes a historical introduction, a catalogue, a text about compositional techniques and score samples as well. Based in Campinas, the Centro de Documentação de Música Contemporânea (Contemporary Music Documentation Centre) directed by José Augusto Mannis has been developing an online database with information about works by Brazilian composers, including many electroacoustic pieces (CDMC-Brasil/Unicamp 2005). The Instituto Itaú Cultural, also from Brazil, has posted online a panorama of art and technology in that country, including information about some twenty composers who have been working with electroacoustic media in their music (Itaú Cultural – undated). The information is available in Portuguese.

There is now a website devoted to electroacoustic music in Chile, including a historical introduction, photographs and a specialised catalogue of some fifty Chilean composers who have been working in this field (Schumacher 2005). Worth mentioning is that over 160 recordings of music by Chilean composers are also available for listening in three documentation centres in Santiago.

## 4. CONCLUSIONS

The results of my research show a sustained development in several Latin American countries in terms of musical creation involving electroacoustic media.

Argentina, Brazil and Cuba have been showing uninterrupted activities around the studied field since the 1950s or 1960s. On the other hand, countries like Chile, Mexico, Uruguay and Venezuela showed

pioneering actions during the 1950s or 1960s but then an irregular production, in some cases until the late 1980s or 1990s, when strong activities in the field restarted.

Composers from Bolivia, Colombia, Ecuador and Peru using electroacoustic media in their music during the 1960s and 1970s were mainly working at studios in Europe, the United States or in other Latin American countries (e.g. Argentina). The first activities in the Dominican Republic occurred around the late 1970s. In a few countries of the studied region, like Costa Rica or El Salvador, we can track down activities in the electroacoustic music field to only the 1980s, the 1990s, or even just a very few years ago. There are also some exceptional situations, like the one in Guatemala, where not many composers have been integrating electroacoustic techniques and technologies in their music, but some works can be traced back to the early 1960s.

## 5. POSTSCRIPT

Hopefully, this text will invite you to explore the wonderful and largely unknown world of music created by hundreds of Latin American composers over the past several decades. There are many other names not included in these pages that contributed to the fascinating electroacoustic music development in the region. There is no correlation in this text between the number of lines written about each composer or researcher, and the quality and relevance of their achievements.

Please, send any additional information, comments, updates and corrections to: Ricardo Dal Farra, [ricardo@dalfarra.com.ar](mailto:ricardo@dalfarra.com.ar).

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