Latin American Kinetic Art and its relationship with Electronic Art: Gyula Kosice and Abraham Palatnik

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Abstract

This paper focuses on the works of Latin American artists Gyula Kosice and Abraham Palatnik, looking to trace relationships between kinetic and electronic art in Latin America. Some characteristics they share are the inclusion of spectator participation and the early use of lumino kinetic technology in their work. These artists were both pioneers in kinetic art, as well in the use of technology in art, incorporating movement and technology before the concept of 'Kinetic Art' was introduced by the 1955 exhibition *Le Mouvement* at the Galerie Denise René.

Keywords: kinetic art, electronic art history, Latin American art, lumino kinetic art

This article is part of our research on Latin American kinetic artists and works [1]. Kinetic art is a category of post-war visual arts which originated with the exhibition *Le Mouvement* at the Galerie Denise René in Paris in 1955, and experienced a boom of international exhibitions in Europe and the USA during the 1960s. A wide range of artworks involving movement were created at this time, including works based on optical illusions, or the use of mobile light and mechanical movement (through either natural forces, or the direct action of the spectator, by manipulation or displacement).

Our intention is to read between the lines, searching for relationships that can be established between kinetic art and electronic art. On the one hand we focus on the common problems they share with regard to the central role played by the spectator, and also the factors of space and time which are inherent in the works. On the other hand, the technological character of lumino kinetic artworks established a link between kinetic and electronic art, paving the way, through the use of motors, electric light and electronics, for the inclusion of technology in art.

In order to analyse these relationships in the Latin American context, we focus on two artists who were pioneers in kinetic art, as well as in integrating art and technology: Argentinian Gyula Kosice and Brazilian Abraham Palatnik. Both of these artists developed practices — before the concept of 'Kinetic Art' was introduced by the exhibition *Le Mouvement* — that hinted at an international movement which transcended the kinetic field (included the incorporation of direct dynamism) and had diverse manifestations that were not interconnected, as was the case between Kosice and Palatnik.

The works of these two artists serve as a guide for analysing the two main features of the relationship that we propose between kinetic and electronic art. On the one hand, Gyula Kosice revealed at an early stage the problems common to the participation of the spectator, and the inclusion of time and space in art. In his first works, linked to the Madí International group, he experimented with neon lights and water to make manipulable pieces that include the spectator, thus breaking with the static nature of both painting and sculpture, and opening up his work. On the other hand, Abraham Palatnik used electronics and electric lights as an artistic medium in his first pieces, thus becoming a pioneer of lumino kinetic art, which is characterised by works that directly incorporate mechanical, light and electronic technologies.

Gyula Kosice

Hungarian-born Argentinian Gyula Kosice is an artist, theorist and poet. His poetry is active within his works, and anticipates the basis of his creation, or as he describes it: "Poetry: my manager" [2]. Starting from the context of the Concrete Art avant-garde of Buenos Aires — as promoted by the legendary *Arturo* magazine in 1944 — Kosice, with his early use of water and neon, and his creation of manipulable sculptures, developed a pioneering and diverse international practice within the fields of kinetic art and the integration of art, science and technology. He wrote in *Arturo*: "Man shall not end up on earth" [3]. This statement foreshadowed his *Ciudades Hidroespaciales* (*Hydrospatial Cities*) project which, conceived as a solution for global overpopulation, consisted of floating habitats organised according to five hundred diverse places which range from the poetic to the commonplace, for example "place to forget the forgotten: an annex for free memories" or "place for the unimaginable through personal and collective joy" [4]. Kosice traveled to the U.S. to consult NASA about the viability of his project, "and they told me: It is possible, Kosice, continue you work" [5]. In his proposals, electrolysis would supply oxygen for breathing, whilst hydrogen (through nuclear fission) would provide the energy required in order to suspend and move these 'cities'. Although they have not become reality, due to their high costs, "their impossibility is, in fact, their ultimate reality, because we are forced to rethink the category of that which is possible" [6].

In *Ciudades Hidroespaciales*, life and art exist inseparably. The union of architecture, poetry, urban planning, science and technology is a continuation of the

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ideology of *Madí Internacional*, founded in 1946 by Kosice, Rhod Rothffus and Arden Quin; these ideas can be identified throughout the course of Kosice's career. In the *Manifesto Madí,* he writes: "Madí Art will be recognized by the organization of elements of each art in its continuum. This includes the presence, mobile

Fig. 2. Gyula Kosice, *Röyi* (© Gyula Kosice)

dynamic order, and the development of one's own subject, playfulness and plurality as absolute values. Therefore, abolishing any interference of the phenomena of expression, representation and meaning" [7].

The main element in Kosice's work is water —hydro-sculptures, hydro-kinetics, hydro-spatiality, hydro-murals — making him a pioneer in its artistic use with his piece *Una gota acunada a toda velocidad* (*A drop cradled at full speed*) (1948). Water, in combination with air and light, is the origin of life, as well as the energy of the future, the biggest constituent of both our bodies and our planet.

In 1946 Kosice made his *Estructuras lumínicas Madí* (*Madi Light Structures*), the first artworks in the world to incorporate neon lights. This series of works originated from a Madí photomontage by Grete Stern featuring the letter 'M' from a Buenos Aires neon sign for Movado watches, which made Kosice think that if neon was being used in advertising, then why not make artworks with it? Ladislao Gyori, informed by Kosice's writing, wished to achieve his idea of 'Light Courses' using neon, in which light rays result in a work devoid of location, freeing the picture by making a "sculptural projection that makes space palpable" [8].

One of the manifestations of Lucio Fontana's Spatialism is a neon structure made in Milan in 1951, about which Fontana writes to Kosice: "Spatial Concepts. Movement born in B. Aires with your manifesto of 1946 (...) Revolutionary art, neither value nor stone, but motion and light and space" [9].

Kosice was also a pioneer in manipulable sculpture; for example *Röyi* (1944), a series of eight jointed wooden pieces that can be moved and repositioned by spectators. This work raises the issue of audience participation (through the possibility of direct manipulation) — a feature of works as diverse as optical art, lumino kinetics and kinetic art, the source of the movement that constitutes the key to these kinetic works being the active participation of the audience.

A form of this type of participation is present in transformable works that begin with *Röyi* and other Madí sculptures, followed by *Polivolumen* (*Poly Volume*) by Mary Vieira, Brazil (1948), *Espacios transformables* (*Transformable Spaces*) by Ennio Iomi, Argentina (1951) and *Estructuras transformables* (*Transformable Structures*) by Darié Sandú, Cuba (1955). Lygia Clark, in her *Bichos* (*Bugs*) series, which she started in 1960, intended to generate an inner experience in which the 'Sculptural Participant' "experiences the work and, in this experience outside his nature, he lives within himself" [10]. The focus of the neo-concrete work of Clark and Helio Oiticica is interaction with the tactile, the audible, the sense of smell, and relational spaces. Clark works from a psychological perspective, creating 'rites without myth', while Oiticica explores social and environmental issues in his 'action structures', such as his *Parangolé* series, in which the mobile sculptures are worn like costumes in order to interact with the environment. These 'wearable' works resemble the playful *Anteojos para una visión distinta* (*Goggles for a different vision*) (1965) of Julio Le Parc, and *Chromoscope* (1960-69) by Carlos Cruz-Diez.

We see a link between the participatory character of kinetic art and the notion of interaction in electronic art, and agree that it is important to "demystify the idea (that) interactive art originated with digital technologies" [11]. Although 'interaction' implies a relationship with an intelligence system that is not present in kinetic works, a relationship between work and viewer is a common factor, letting us catch a glimpse of the similarities between the two practices, such as the ludic dimension, and the questioning of reality.

In reference to the work of Clark and Oiticica, Simone Osthoff suggests that interactivity "... must be regarded as part of contemporary art's natural development towards immateriality" [12]. We can already see this in the text *Röyi: Myth and Literature* (1944) by Kosice: "The only space that presents an analogy with the flow of time, is the one created by a Röyi articulation (...) a kinetic without alphabets takes on consciousness. Its hidden radar thrives on wood and its water roots are everyone's participation. The Röyi myth and its ascension into literature renew its own language, its projection and volumetric return in space. Without being defined, it recycles its gained memory and triumphantly assumes cosmic dispersion. *This is Röyi interaction*." [13]

Two decades later, Argentinian Julio Le Parc created randomly varying situations via moving lights. This "immaterial element" was already present in his work with GRAV (*Groupe de Recherche d'Art Visuel)*: "This (element) is not a simple relationship. It is the relationship itself … . When we work with this element; we find that it can slip through our fingers like water. Its very existence … transports us to another field ... simply outward, to an immaterial plane" [14]. At the same time, while the Venezuelan Carlos Cruz-Diez was investigating how to "liberate color in order to throw it into space" [15], he created the *Cromasaturaciones* (*Chromosaturations*), chromatic environments of blue, red and green that, devoid of substance, modify and fill the space. Meanwhile, from 1967, the other great Venezuelan master of kinetic art, Jesus Soto, created the *Penetrables,* born out of a need to 'get inside' the vibration produced by his works, using "elements only to materialize an abstract world of pure relationships" [16] where "it is impossible to say which is more real: the solid object or the immaterial vibration" [17].

Abraham Palatnik

In 1949, by introducing technology into his work, the Brazilian Abraham Palatnik became a pioneer of lumino kinetics (a post-war art movement characterised by a renewed interest in combining light and movement; its forerunners were Wallace Rimington, Hausmann, Wetzel, Thomas Wilfred, the Bauhaus experiments, and the investigations of László Moholy-Nagy).

In Araxá in 1948 (ie. even before Palatnik), Mary Vieira made the electromechanical work *Formas Elétrico-Rolatórias, Espirálicas à Perfuração Virtual* (*Electro-rotary spiral forms with virtual perforation*), a large format spiral sculpture with a rotary motion that aimed to achieve the multidimensionality characteristic of all her work. Viera later abandoned the use of electro-mechanics and prioritised direct participation of the viewer in space and time, thus integrating sculpture and architecture.

Palatnik trained in mechanics, physics and drawing in Palestine, where he grew up. After returning to Brazil in 1948, he was influenced by art critic Mario Pedrosa, who spoke of an experimental 'emancipated art' and introduced the Concrete *Carioca* avant-garde to Gestalt Theory, and to visiting the *Centro Psiquiátrico Nacional Pedro II* (*National Psychiatric Centre Pedro II)*, where, in 1946, psychiatrist Nise da Silveira was prescribing creative workshops as therapy for the patients. Palatnik's 'learnt' notions of art were challenged by his recognition, in the patients, of artists who joined image and language via their subconscious alone. In 1949 he abandoned painting to embrace technology as a medium, devoting the next two years of his life to building his first 'cinecromáticos' (kinechromatic) apparatus — a term coined by Mario Pedrosa to describe the desire to set kaleidoscope images free.

The second of these experiments, *Azul e roxo em primeiro movimento* (*Blue and red in first movement*), was initially rejected by the 1st Sao Paulo Biennial in 1951 because it did not fit into any category; however, when the Japanese delegation failed to arrive Palatnik's work was substituted, and was then awarded an honorable mention by the international jury. This device was made up of 600 metres of cable, 101 light bulbs of different voltages, several cylinders rotating at different speeds (thanks to motors), and a set of prisms and lenses, and was controlled by a console with a separate switch for each bulb. It projected a variety of colours and shapes of light, in cycles of twenty to thirty minutes' duration, onto a semi-transparent plastic screen which covered its front. By 1959 Palatnik had built about 20 kinechromatic devices, and had managed to decrease the cabling to 60 metres and the number of bulbs to 51, with a new automatic control console featuring separate switching for light and movement. In 1964 he was invited to the Venice Art Biennale, and his 'painting machine' subsequently received international acclaim. From 1964 onwards Palatnik created other machines, or 'kinetic objects'. The subtlety of rhythm achieved in them demonstrates the fine poetic tension between discipline and randomness that is common to all his work, "to order the chaos of perception" [18]. "In my work I seek the principles that generate information, those are the principles of order and essence. Information in the universe is usually hidden, disguised in disorder. The mechanisms of perception and intuition are necessary for them to manifest "suddenly". It is this "surprise" for which I have the greatest interest and fascination. The process of exchange begins and I seek to discipline information through the appropriate technology" [19].

In Palatnik's series *Movilidad* (*Mobility*) (1959), he explored this 'exchange' with magnetism; these works were sometimes playful, a characteristic also present in his chess game *Quadrado Perfecto* (*Perfect Square*) and his *Objeto Rotativo* (*Rotary Object*) of 1969, in which "the mechanism of improvisation opens up and playfulness is presented by bringing the human being close to his condition of participation and integration" [20].

Kosice and Palatnik are both pioneers in kinetic and electronic art. The early use of technology in the oeuvres of both of these artists was developed through experimentation with new materials. By using this research as an artistic method, and by leaving painting and sculpture aside to create a new type of work that included movement, these artists broke, at the same time, with both figurative and abstract representation.

Based on Kosice's work, along with the analysis of other manifestations in Latin American kinetic art, we can see how kinetic art transforms the relationship between the work and the spectator (included through the participation of his own visual perception or his direct action). In this interaction, the dimensions of time and space are integrated, arriving, as is the case with Soto, Le Parc and Cruz-Diez, at a dematerialisation of the piece within space – thus presenting aspects that will be shared with digital art, such as the concepts of interactive and immersive. Despite the huge differences in technology in kinetic art, the spectator's participation and the quest for the deployment of the piece anticipate clearly several characteristics of the electronic arts; such charateristics are commonly understood as given in the electronic art context, without the appropriate historical background.

Translated from Spanish by María José Rojas and Lucía Nieves Cortés.

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