**'Reflections on the origins of computer art in Brazil and the United Kingdom: An aesthetic study on the production of Waldemar Cordeiro and of British artists in the 1960s and 1970s'**

Research Project for the Postdoctoral Fellowship

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The main objective of this research project is to establish aesthetic relationships between the beginning of computer art in Brazil and in the United Kingdom, seeking convergences and distinctions in the fields of artistic practice and reflection in these two different contexts. These relationships will be formed through an analysis of the pioneer work in Latin America of the duo formed by artist Waldemar Cordeiro and by physicist and professor Giorgio Moscati, and based on experiments conducted by a number of British artists and researchers, such as Alan Sutcliffe, John Lansdown and Dominic Boreham, among others.

This proposal emerges from a variety of speculations that began to take shape during the investigation developed in my doctoral research, entitled 'A study on the role of chance in computer art: Reflections on the relationship between information systems and the aesthetics of communication", defended in the PhD program in Communication and Semiotics of the Catholic University of São Paulo (PUC-SP). Within the realm of my thesis, I researched early computer art in Brazil, devoting space to the works of Waldemar Cordeiro and Giorgio Moscati within the concrete movement from São Paulo, that can be understood as part of the modern abstractionist movement. Cordeiro participated in the writing and the actual launch of the concrete manifesto, proclaiming a rupture with figurative art. The artist became the spokesman for the concrete group and the leading theoretician of the movement in São Paulo. Although the object of research in my thesis did not entail a deeper discussion concerning the historical perspective, the importance and legacy of this pioneering work became essential for the development of the ideas generated.

The historical reflection proposed here proves to be relevant to studies in this field, as the use of computers as tools of mediation constitutes a field of contemporary art, being however, an area possessing deeper roots than an inattentive glance may reveal. The understanding of its origins may contribute to the understanding of the development, current production and future directions of this art form.

The concern regarding the possibility of using computing devices as an aesthetic medium has its origins in the early days of computing, but its effective use begins to emerge with more clarity only in the 1950s, achieving a more effective consolidation in the 1960s and 1970s. The relationship between computers and art is seen as complex because it involves artists, scientists, mathematicians, physicists, computer programmers and laymen working together with devices and artistic languages.

The debate regarding the level of importance that technical knowledge has, or should have, in this field is a key point of of discussion, enhanced nowadays by the popularization of computing devices, which makes it possible for anyone with a small amount of rudimentary programming knowledge, to create experiences with a high level of technical accuracy, but not necessarily aesthetic. In this research the scientific and aesthetic fields shall be connected, as everything originates from my perspective as an artist, researcher and programmer.

The tensions that have always emerged from the meeting of individuals from such different backgrounds have been apparent since the production of artistic languages with computers began, which can be observed in the several attempts to maintain the ideological discourses of each particular area involved. Artists have always been responsible for preserving the sacred veil that has covered art since time immemorial, as if this means of production were of their exclusive domain and ancestry. To scientists, being in charge of maintaining the formalization of the technical discourse, which preaches precision and accuracy. This research will seek to address this tension through the analysis of artists and scientists who led to ruptures in this art-science rigid structure, established with greater force after the advent of Enlightenment, promoting in a sense, a revival of aesthetic ideals found in ancient Greece, as for the Greeks of this period, art and technique are referred to by the same word: *tékne*. Such a word denoted all and any suitable means of achieving a particular purpose, this being art in the broadest sense. In this sense, art embodies all the processes that allow us to do a certain action well. Under the aspect of the acts that such processes involve, and which are aimed at achieving a certain result, art is the very provision that enables the subject to act in a pertinent manner, guided by the foreknowledge of what he wants to do or produce. How was this question applied to heterogeneous environments, where the need to reconnect art and science became a central issue for the formation of new languages?

The project here presented seeks to elucidate this issue and its unfoldings that emerged in embryonic form in the Brazilian trials, while at the same time intending to correlate it with the initial work in computer art that developed in the UK, a region that concentrated great practical and theoretical output at that time. By this it establishes a transnational link, with the intention of investigation the aesthetic, social, institutional and cultural differences between the production carried out in these two territories.

Given these initial issues, the research seeks to elucidate the following question: 'What are the points in common and the differences in the fields of aesthetics and technique, in the initial production of art with computers, created in Brazil and the United Kingdom?".

To this end, the following points will serve as methodological support for the development of the research:

- The identification of the precursors who led to the emergence of the production of art with computing devices in the context of Brazil and the United Kingdom. A philosophical approach to the

growing importance of computing devices, in overall terms to industrialized societies, may be an interesting starting point. In this topic, the ideas developed by the philosopher Vilém Flusser concerning the differences introduced into the composition of language since the advent of these apparatus will be of great assistance;

- The establishment of the main differences in the contexts of art and science between Brazil and the United Kingdom in the 1960s and 1970s;

- The advent of the production of artistic praxis with computers in two geographically distant places during the modern pre-globalization period;

- The production of computer art by Waldemar Cordeiro inserted into the artistic and scientific reality of the Brazilian concrete movement;

- The major British productions and the scientific and institutional context in which the pioneering artists were inserted and

- The shared and divergent aesthetic points between the two realities.

In this research a qualitative methodology shal be applied, based upon literature reviews and visits to institutional collections, such as the CACHe Project, an archive that preserves the pioneering works of British computer art.

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