Proposal to a Ph.D. research.

Art as an interaction field

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Introduction

The gesture in art has changed. If at a given time the old gesture was a reflection of a look at Nature, trying to translate it and dissect it in the two dimensions of a surface, nowadays the artist's gesture is focused in the production of a different space with the aid of the new communication technologies. It no longer deals with the appearance of things, nor with their image or superficial reality. Instead, it deals with a multi-dimensional space that is the offspring of a building gesture which deals with conceptions, physical as well as biological structures and also with the emergency of a new topology and complexity.

If the artist used to be put as an agent between the phenomenological world and its representation, nowadays he is put inside a vortex, linked to specific networks, spreading its creative energy through intelligence systems in a body-machine symbiosis, which feeds the world-mind union, the universal hypercortex[1]. The artist's piece is not merely an object anymore. It is an investigating field, a dimension operated by someone who acts in time-space.

Little by little the history of art evolved from the history of someone who noticed the world to someone who noticed himself in the world. As the look turns to itself, the body is gradually put in the center of its own investigation. Since Velásquez, with his picture *"Las Meninas"*, the observer is captured by a system of meanings whose image puts him as a participant of the piece, which anticipates Duchamp statement that the participation of the observer is important in the constitution of the piece. The "action painting" and the "dripping" are expressive forms which register the action of someone as well as the energy accumulated in its gesture. This gesture expanded into "happenings", "performances", "body-art", etc., not to mention the contributions of Ives Klein and the Brazilians Hélio Oiticica and Ligia Clark, it aims at a body invested in and connected to production techniques[2].

Nowadays, interfaced with the new digital technologies, this body produces a dialogue with different entities: words, sounds and movements, technologically generated and memorized, work as interlocutors and are no longer a mere reflection of a creating mind. The limits of the body, his materiality, his physical presence and his energy are information, input data that flows in interactive feedback in numerical environments. Artificial systems are fed by our vital signals. The piece looks at us through its electronic brain. Its neural networks are built by layers of interfaces that are cognitive agents in an electronic trance.

At a time when science has just got 97% of the information on how to create man himself, let's wonder why not consider pieces of art as a transforming and constructive process inside broader realities rather than a simple expressive or decorative means. In

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[1] Roy ASCOTT, *Cultivando o hipercortex,* In*: DOMINGUES,* Diana. (org.) *A arte no século XXI*, p.37.
[2] Diana DOMINGUES, Desafios da ciberarte: corpo acoplado e sentir ampliado, In: BARROS, Ana e SANTAELLA, Lúcia (org.). *Mídias e artes; os desafios da arte no início do século XXI,* 2002, p.61.

communion with science, artistic experience has always worked as a sense amplifier, and nowadays, a piece of art, aided by technological instrumentation, cam be seen as a chaotic microcosms revealing new sights, new meanings, new structures based in sensibility exchanges.

If gestures extend far beyond the body's boundaries in these electronic environments, it is at the same time, towards the inner body that those digital organisms and their network branch. It is in the crossing of these energetic fields where our desires echo and through this complex tangle that our levels of consciousness restructure in new cognitive architectures. The body is media and interface. Before this new paradigm, the interfaced body is subject to and object of a consciousness, which expands far beyond surfaces.

We are in body and soul in a territory which requires the surging of new paradigms, new imaginary gadgets, new visions and new affections. Given this scenario, it is interesting for us to accurately investigate this space of connections, this coupling of the biological body and the digital organisms which inhabit these spaces of mixed realities[3]. In this investigation, it is desired to go far beyond the world of physical interfaces that connect man to machine. Our interest lies in cognitive interfaces: those that manifest at the moment our consciousness reflects the piece in its conceptual surface. Just as the human voice echoes in the mountains and returns modulated by their relief, so does the body project itself in silicon minds getting contaminated by electronic memory. The point of interest is "memes" [4] and what the culture of interfaces can contribute to format new perceptive models.

Technological art is not the art of electronic apparatuses, of computers. It is the art of a symbiosis between energy fields: the vital energy of the physical body and the energy of the digital electronic body. It can not be forgotten that ahead of each technological gadget which monitors, sees, reads and listens to us, there are human beings' physical bodies, which participate with their biological system, sending signals: signals of life and consciousness in all its complexity.

In order to expand this field of investigation, this biological body as well as its diversity must be considered. It is known that man's nervous system is far more than an amplified internal system of electric wires. In fact, it is a superbioelectronic and biomagnetic force field, currents and electromagnetic charges which gather, collect, store and recover information, a million times more advanced than any of nowadays' ultramodern computerized systems[5].

Eastern cultures approach the subject in a very objective way. Research in Japan talks about a triangle of "consciousness - energy - matter"[6], bringing in Math formulas

[3] Roy ASCOTT, *Fluxo Biofotônico. Unindo realidades virtual e vegetal*, p. 255.
[4] Richard DAWKINS, In: *Memesis, The future of evolution Ars Eletronica 96, Stoker Gerfried, Christtine Schöpf (Editors), Linz: Springer Wien New York, 1996.*
[5] John DAVIDSON, Subtle energy, p.172.
[6] *Ibid.,* p.194.

which allow the understanding of how the visible energy in our physical world acts in the fields of "virtual" or "ethereal" energy. Thousands of years ago a philosophical, cultural and scientific system was developed, which relates a kind of energy with living beings. This vital energy is named "Ki" by the Japanese, "Ch'i" by the Chinese, "Prana" by the Indians and "Bioenergy" by Western people. In ancient China the word "Ch'i" was used to denote the vital blow or the energy which animates the cosmos. This is the flow of energy which goes through the body in energetic systems called meridians. According to neoconfucionists, the Ch'i is conceived as a mild and not perceptive form of energy which is present in every space and can also condense in solid objects[7].

According to Walter Thirring[8], modern Physics has put our thoughts about the essence of matter in a different field. It has taken our sight from what can be seen — particles — to another underlying entity — the field. The presence of matter is simply a disturbance of the perfect status of the field in that particular place. What can be sensed here is a focus in the emptiness in relation to classical physics. In fact, emptiness and shape are two sides of a coin. To classical physics, the concept of field was originally linked to the concept of force. This changes with modern physics. Force is nothing else but interactivity of energy — in the case of electrons, a multiple exchange of photons. According to Fritjof Capra[9], in a subatomic world, instead of force, there are interactions of particles through fields. In a new insight, this new paradigm consists in a powerful model to think about interactive art.

In a moment when electronic art deals with the spacing in which the body is linked to new technologies, it is the artist's job to think about in which architecture this technological embrace will operate. However, interaction fields much more subtle than those operated under the old paradigm oriented perception must be considered.

It is possible as well as necessary to look at this body in the world and space just like Leonardo da Vinci did in portraying clouds and faces in his blocks. For lots of people they were just powerful visual compositions, but to him they were investigations about the invisible forces of forms.

Techno-science has been providing intelligent tools to investigate phenomena, but it is the job of the artist and his creative mind to turn knowledge models into esthetical sensibility, asking the right questions and making adequate interfaces.

Development and objectives

[7] Fritjof CAPRA, *O Tao da física; Um paralelo entre a física moderna e o misticismo oriental,* p.162.
[8] Water THURRING, Urbausteined der Materie, In: CAPRA, Fritjof, O Tao da física; Um paralelo entre a física moderna e o misticismo oriental, p.163.
[9] Fritjof CAPRA, *op. cit,* p.162.

According to McLuhan, the electrical systems of information are live environments in a full organic sense. They alter our feelings and sensibilities, especially when we do not pay attention to them[10]. From this point of view, we formulate the hypothesis that the interactive experience with the art work based on digital communication technologies rises the interactive person from the category of simple user to the category of symbiotic user. We are taking in consideration the art work as a symbiotic system within live organisms: both electrical and interacting connected field of forces.

As a practical part of this research, we will develop a system based on that symbiosis. We want to produce an installation in which, through the monitoring and processing of dynamical data collected by an interface, it could be possible to generate a complex environment where narrative structures are generated and transformed during the interaction of the public at that space. The focus of this project is in the zone of interstice[11] between the body and the new technologies. We are considering the sensitive space where the changes of energy between the biological body and the electronic body happen, and the semantic production that that system can provide through the mutual action within its components. We seek an expansion of the dynamical qualities – tension, energy, force, vibration, attraction – incorporated in art, that now become alive and embodied by numeric image, aiming at a poetic construction based on interaction of a body and its energy as a performing agents.

In this doctorate research we plan to go into the field of Virtual Reality, according to the conception of it as being more than a singular technology. "VR encompasses a whole ontology of telepresence, of sensory immersion and immaterial connectivity, which affords changes in the way we view ourselves, in the manner of our behaviour, and in the environments we wish to inhabit"[12]. It is about a practical-theoretical project that aims at thinking the body interfaced with the numerical technologies, based on the research of the biological, mental and virtual energies.

We seek to investigate the technological art, not only from the viewpoint of the electronic apparatuses, the computer, but also from the perspective of art as a symbiosis between energy fields: the vital energy of our body and the energy of an electrical body. We can not forget that behind every technological device that monitors, sees and listens to us, we find our body, which participates with its biological system emitting signals of life and consciousness in all its complexity. We are body and soul in a territory that requests the emergency of new paradigms, new imaginary devices, visualizations and affections. Before this picture it would be interesting for us to:

• think theoretically and empirically about that space of connections, this coupling of the biological body and the digital organisms that inhabit the Mixed Reality spaces[13].

[10] Derrik de Kerckhove, *A pele da cultura,* p.273.
[11] DOMINGUES, Diana. *Desafios da ciberarte: corpo acoplado e sentir ampliado,* p.63.
[12] Roy ASCOTT, *Fluxo Biofotônico. Unindo realidades virtual e vegetal*, p.246.
[13] *Ibid*, p. 255.

• investigate beyond the planes of the physical interfaces that connect man to machine. Our interests are the cognitive interfaces, those that manifest themselves at the moment when our consciousness reflects itself in their conceptual surface. We are interested in "memes"[14] and in that which the interface culture can contribute to format new perceptive models.

• research the art production in the realm of interactive installations focusing on biotechnologies, spatial narratives and cognitive structures.

• develop a research into visibility and interactivity in the field of subtle energy based on the traditions of the primitive cultures, on the new paradigms of modern Physics as well as on the utilization and development of new technological interfaces.

Specifically in these research we'd like to:

• study, through an epistemological net, the interactive user of the electronic art as an active part of a meta organic system.

• develop, as a practical part of this research, a system that will bring visibility to the questions brought up by this doctorate.

[14] Richard DAWKINS, In: *Memesis, The future of evolution Ars Eletronica 96, Stoker Gerfried, Christtine Schöpf (Editors), Linz: Springer Wien New York, 1996.*

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