

Art and Interaction: Language and Meaning Production

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Abstract

This study seeks to deepen the understanding of interactive processes in the field of technological art. For such, it will search in the studies of Mark Johnson and George Lakoff the necessary elements for the production of a perspective able to offer a deeper understanding of the processes that involve the production of meaning and aesthetic experience.

Keywords

Art, Interaction, Language, Technology, Evolution

Introduction

It does not go unnoticed that we experienced an unprecedented phenomenon in the history of culture. The dilution of the limits between some activities in the field of the studios and critical arts is evident and has constituted a challenge for scholars and crisis. Hybridization between before well-defined forms of artistic expression characterizes contemporary art and these interborder transgressions puts complex conceptual issues, which some critics believe that art today is beyond the historical determination, conceptual definition and critical judgment (Rebentisch, 2011; p. 219). Flores (2011), aware of this challenge, seems to search for new perspectives to face her to wonder if photography and painting are, in fact, two different means.

Contemporary culture would be better understood if it was considered beyond just from the diversity of its products among which we must include those arising from the art. Recent advances in the neuroscience point the aesthetic experience as central aspect in the cognitive effect generated by the products proceeding from the artistic sphere of the culture, and that this originates in the sensorial stimulations that the concreteness of these products can produce. The aesthetic in art “relates to what is perceived as beautiful and rewarding,”

it is the conclusion reached by Ishizu and Zeki when they talk about the inadequacy of the idea of “significance of the form” proposed by art historian Clive Bell (1914). According to Bell, the visual beauty guesses some quality common and peculiar to aesthetic objects. What Ishizu and Zeki realized is that the aesthetic experience is a cognitive phenomenon of subjective nature, independently from particular properties of objects and includes those constituted inside and outside the formal beauty standards. It is known from these studies that there is an objective form to understand and to measure the conscientious and aesthetic experience through the observation of the state of excitement of the neurons situated in a cortical structure of the brain called medial orbito-frontal cortex (mOFC) (Ishizu and Zeki, 2011) From a different bias, however convergent, the philosopher Juliane Rebentisch argues that it is advantageous to consider the contemporary art from two main aspects: the blurring of limits or “boundary- crossing” and the experience. For the author, these are more adjusted notions for the task to understand the contemporary art and to consider its production than the “post-history” or “culture of the spectacle”. Such categories are important, as they point to fundamental changes in the artistic theory and practice, changes of which are equally fundamental for the understanding of the contemporary art. However, for Rebentisch, these are not the best categories to describe this change.

Boundary-crossing as a very general title for an artistic development that has called into question the unity of art and the arts (for the last three decades ‘boundary-crossing’ in fact was one of the most popular keywords in the international discourse on contemporary art); ‘experience’ as a central category of an aesthetic theory – partly motivated by this artistic development –, which no longer tries to conceptualize the truth content of art works in the framework of a philosophical system (for the last three or four decades the notion of ‘experience’ in fact was the

focal point of debate in philosophical aesthetics at least in Germany) (Rebentisch, 2011; p.220).

The “dislimitation” of the traditional concept of artistic work through some forms of blur of borders and the methodological change in direction to the category of experience had challenged the modernist narratives and with them the critical judgments on the art, the philosophy and of the history of the art. The productions carried through from the decade of 1960 dissolved the limits between the artistic genders established by the modernist project supported in a homogeneous and contiguous historical development. To consider the contemporary art from this new point of view implies potentially in critics to the modernist idea of an objective determination of the art work, opening this question for potential conflicting readings (Rebentisch, 2011 p. 221). These choices are motivated by the complex characteristics of the contemporary artistic production, impenetrable to the classic critical approaches, which compels to the abandonment of the normative and historical speech to consider the art from the conscious experience as central category for the aesthetic theory.

Now, as I see it, this neither the end of history nor it is the end to art’s conceptual determination or critical judgment as such – is just the end of a certain problematically objectivist notion of history, art, and critique. Both the ‘boundary-crossing’ phenomena in art and the philosophical turn toward a concept of aesthetic experience respond to the same problem of modernist objectivism. Thus I believe that when contemporary art dissolves basic convictions of high modernist art theory this should be understood as a movement of aesthetic enlightenment, of progress if you so will (Rebentisch, 2011 p.221).

Fabbrini (2012), when reflecting on the end of the artistic vanguards, glimpses in the diversity of the contemporary production a movement of opposition to the universalist and standardized bias of the modernist vanguards:

It is necessary not to consider, in first place, the art of this instrument as a pure heterogeneity (of codes, languages or means), for a random difference whose effectiveness would be impossible to assess. To the contrary, it is necessary to sharpen our sensitivity for the differences and to strengthen our capacity to support the plethora of the particularities, to configure a landscape, in great measure, still unknown. From this decentralized and sprayed production, of activation of the differences, one form of reaction to the universalist and standardized bias of the ar-

tistic vanguards, we highlight three languages: the painting, the technological art and the collective ones, while symptoms of post-vanguardist artistic imaginary (Fabbrini, 2012).

The author reflects on the contemporary art from a scene capable of allowing him to trace a way to distinguish in the “decentralized, sprayed production, of activation of the differences”, a conceptual alternative for the art. For him, it seems to be possible, beyond necessary, to find coherences in the contemporary complex production that can base a reflection on the transition of the modern for the contemporary. When considering painting, technological art and collective production, the author evidences some structures, indications of order and coherent flows.

In compliance with the scholars of the contemporary art, this study also searches to find new fundamentals for the contemporary art in special for the production that Fabbrini calls Technological Art. This, characterized by the sensible technological aggregate construction, places challenges that demand for the systematic reflection on the interactive processes, as well as the technologies and its expressive potentials, its essence and purposes. The objective in this instrument is to find alternatives to recognize and to give continuity to the reflection on the contemporary production of the art, to find new scenes in the search for the senses of this multiple and diversified activity.

Art and Evolution

Another aspect that deserves attention in the contemporary production of the art, mainly in the scope of the technological arts, is the fact of that much of its narratives are organized in the form of installations. In its many forms, the installations constitute the most excellent form of contemporary art since 1960, not only because it concerns the contextual sensitivity of the interior and exterior space in which it is shown, but also for the social structures that influence the reception of the art in general (Rebentisch, 2011; p. 222).

Brown and Dissanayake (2009, pp.43 – 57) contributes for the advance in the agreement that the contemporary art from a perspective given for theory of the evolution of Darwin, calling the attention for a fact systematically forgotten: That the human beings evolved throughout millennia from simpler forms. For the authors, the recovery of the ideas of Darwin in century XXI can expand the scope of the humanities when including in the horizon of the events the humanity, the

life, the mind, and works of people in all the historical societies and periods, including the pre-history. This magnification implies in understanding the evolutionary history of the human species and its psychology in particular. In this context, the interesting point is to consider that the development of the arts is integral part of our evolutionary history, and it may be considered as part of adaptative strategies to the environment. The adoption of this perspective implies that our evolutionary traces had emerged to allow the individual survival and of the species since our existence in ancestral environments.

When considering the evolutionary approach, Brown and Dissanayake (2009) lists a vast roll of contributions of this field of the knowledge constructing, from them, a synthetic list that shall be presented here in simplified form for the concision of this reflection and with the perspective that the original text could be read in its completeness from the references in the end of the work. The arguments in favor of the adaptive hypothesis of the art are described as follows:

- Improves cognitive mechanisms: the arts contribute to the resolution of problems and for better adaptive choices.
- Articulates social interactions: the arts are used to manipulate, deceive, indoctrinate or control others.
- Allows demonstration of reproductive potentiality: the arts promote mating opportunity through display of desirable qualities (eg, physical beauty, intelligence, creativity, prestige) that denote adaptability.
- Reinforces social ties: the arts reinforce cooperation and contribute to social development, its cohesion and continuity.

Brown and Dissanayake (2009; p.45) consider, from an evolutionary point of view, that when we look at the context for the production of arts in pre-modern societies (traditional Aboriginal) around the world and over time, we find that they are remarkably practiced in ritual ceremonies. These, according to the authors, constitute art collections, conceived as behaviors transformed in art. Despite the great cultural variability, different ritual ceremonies, such as behavioral manifestations of cognitive systems of beliefs about how the world works, they have some characteristics in common. They are realized in uncertain times perceived, when individuals and groups want to influence the results of the circumstances that they perceive as vital to their livelihoods and survival (Brown and Dissanayake, 2009; p.48). You see here the art assuming an important role in materializing the

knowledge in narrative structures in order to allow that models of reality of the social group can be shared between individuals, ensuring the possibility of a coherent action on the environment, a relevant aspect in search for advantageous alternatives for the organized action of the group in the environment.

These art manifestations are typically multimodal, combining singing, percussion instruments, dance, literary language, dramatic spectacle and decoration of bodies, surroundings, and accoutrements. It dissolves the distinction between creators and viewers; even when the public observes “experts” in their performances, they collaborate clapping, moving, shouting, singing, and so on.

As John Chernoff, a scholar of West African remarked: “the most fundamental aesthetic in Africa is that without participation, there is no meaning. The arts in ceremonial contexts offer a multitude of critical social functions for small and large cultures, including historiographical functions related to a company of ancestry and identity; discursive functions related to the justification and feasibility of planned projects; functions related to the marking of time (eg, ritual calendars [crops], life cycle rituals [weddings, funerals, births]); communication with deities; relieve of anxiety and stress; social coordination, to name a few. The main objective of the arts activities is to promote cooperation in collective support of enterprises, such as hunting, foraging, resistance to enemies, infrastructure construction, and the like. The arts are also the main means for maintaining social harmony and minimize conflicts within groups (Brown and Dissanayake, 2009; p.45).

Bring to this discussion the evolutionary approach to art aims to put into question the scope of the concept of art that Brown and Dissanayake wish to expand beyond the Eurocentric notions of the eighteenth century. In considering the question of aesthetic experience from the research of Ishizu and Zeki (2011), which seems in line with these ideas, it opens the way to include in the field of aesthetic experience the artistic production constituted beyond the formal beauty requirements. It can be considered art all manifestation capable to conduct the production of an aesthetic experience. This, as we have seen, correlates the neurocortical activations in cognitive processes of valuation, desire, beauty to positive judgments as reward and pleasure in connection with the activation of other cortical areas (caudate nucleus) that in other scientific studies, were correlated to cortical response to romantic love (Ishizu and Zeki, 2011). These findings indicate that there should be specializations in

the brain to the development of the experience of beauty and ugliness, understood here as a negative and aversive emotional experience. It was found that negative experiences are treated differently from the more confined way in the amygdala and somatosensory cortex, whereas the beauty recruits a much larger number of brain cortices. These studies also revealed that there is a correlation between the intensity observed in cortical activation and declared by the subjects studied, which makes it possible to objectively measure the experience of the beauty. Another consequence of the research of Ishizu and Zeki is the finding that the experience of the beauty is absolutely individual and subjective. The activation of mOFC occurs in any individual regardless of ethnicity, culture or race. However, it is very important to consider that culture is the arena of actuation of the individual in his environment and constitutes a powerful filter in the construction of aesthetic experience and his consciousness. In other words, the emotional response of the individual depends on his ontogeny. New experiences shall always be collated with the previous one, stored in the establishment of the scenario in which they shall be evaluated. This fact seems to be on the minds of the authors when they mention individuals who think rock and roll more “rewarding” than the work of Richard Wagner (Ishizu and Zeki, 2011).

Another aspect that we seek to consider is that contemporary art rescues, through the artistic installations, ancestral functions and values forgotten in the eighteenth century, having in perspective an observer model no longer appropriate, given the rapid technological developments, especially those who provided new possibilities for visual experiences such as systems of production of images generated by computer (Crary, 1990). In the 1990s, such systems announced the deployment of radically different visual spaces made of mimetic capabilities of film, photography and television (Crary, 1990; p.1). Technological advances, such as those from the Computer Photography, brought new and more intense interactive possibilities for photography, opening space for a real reconfiguration in the way you can interact with “photographic” narratives. Photography in its emerging interactive forms, provides new ways of narrative construction, and consequently production of visual experiences that now include the decisive action of the body and constitutive “properties” of space around the interactor.

In addition to the technological advances, those sci-

entific, specifically the neurosciences, have changed the concept of the human body itself, paving the way for the notion of the interactor to expand that of the observer. For Gibbs (1007; p. 1 – 13), the separation that is established in the traditional philosophy of body and mind imposes severe limits to academic studies of mental life. Plato saw the body as a source of distraction in the intellectual life that needed to be eradicated in the practice of philosophy. This same perspective can be found in Christian writings, when St. Augustine in the fifth century, referred to the body as the source of sin and spiritual weakness. The separation between mind and body and the hierarchical organization having the mind over the body haunts the history of Western philosophy from Plato, Aristotle and St. Augustine to Descartes and Kant.” (Cray, 2007 p 3). Antonio Damasio (1996) will refer to the Cartesian dualism and the need to overcome it in the face of scientific evidences that showed where, in the brain, takes place the emotional thought and its important influence on reason

The importance of interactive processes is also considered when Kaptelinin and Nardi (2006) in the search for building an integrative theoretical field for studies on human machine relation and the question of interactivity, discuss the unity of consciousness and activity. For the authors, the Activity Theory can be defined as follows:

Activity theory seeks to understand the unity of consciousness and activity. It is a social theory of human consciousness, interpreting consciousness as the product of the interaction of the individual with people and objects in the context of everyday practical activity. Consciousness is like the enactment of our ability to attention, intention, memory, learning, reasoning, language, thought and imagination. It is through the exercise of these skills in everyday activities that we develop, in fact this is the basis of our existence (Kaptelinin and Nardi, 2006; p. 8).

Interactivity is the core of the Activity Theory that can be synthesized by the “intentional interaction of the subject in the world, a process in which mutual transformations between subject-object poles are produced” (Kaptelinin and Nardi, 2006; p.31). Based on the concepts from the Russian school of psychology, especially in Vygotsky’s ideas, the authors shall define the concept of the human mind as:

Intrinsically related to the whole concept of interaction between humans and the world, a special type of body, emerging and developing to make the interaction with the well successful world (Kaptelin and Nardi, 2006; p. 37).

From these considerations, it can be concluded that consciousness emerges from the interactive experiences that we carry out on the environment. The idea that the body and mind are inextricable are not only at the heart of contemporary philosophy, as seen above, but also in the theories of language. Feldman, considering the neural basis for language, searches in the subjective experience the idea that language originates in concrete experience. To the author, the thought is structured in neural activity and the language “is inextricable to thought and experience” (Feldman, 2006 p. 3). At this point we could connect to important aspects of Technological Art: Interactivity and language. These ideas give opportunity to consider narrative, as abstract thinking supported by language, gaining materiality through technology allowing interactive processes and conscious experiences, especially the aesthetic ones.

Language and Technology

In the thought of Gilbert Simondon, technical reality has human reality and “to fulfill its role completely, the culture should incorporate technical beings as a form of knowledge and sense of values” (Simondon, 2007 p.31). Simondon offers an advantageous point to understand better the role of the form of technology that shall become evident its integrating character between individuals and the environment, rather than be a slavish and reducing strength of human potentialities. Such an approach could also offer an alternative to establish a very close relationship to another important element of the Culture, the Language. This would allow us to design a converged conceptual scenario able to reflect the already much debated technological convergence. The possibility for this conception comes from the fact that, in all its cultural spectrum, the languages, through their stories, express subjective experiences, whose purpose is to connect enunciators and receptors (Feldman, 2006, p.330). We see here an important convergence between the concept of art and language. This is a key aspect in establishing social connections, learning and sharing of reality models. Personal or subjective, phenomenological experience, as the philosophers prefer, *qualia*, is the underlying purpose of the design subjacent to the action of the narratives. The link that connects the languages lies in the conscious subjective experience of translated narrator, coded and materially concretized through the available technologies to produce sensory stimuli with the aim of producing a subjective experience (aesthetics in the case of production in the field of art) conscious

in individuals (readers, audience, interactors, etc.) exposed to it. The ability to perceive in the subjective experience a common aspect in the narratives of different natures is perhaps the best alternative to establish a critical judgment to contemporary production in the field of art.

Art as a Phenomenon of Language

During the evolutionary process, the human species suffered mutations that have given rise to a plethora of behaviors. Cultural processes in human species are beginning around 40,000 years ago with the emergence of what Merlin Donald calls “visual graphic inventions” (Donald, 1993). The author considers that we must add technological aspects to biological when you want to understand the processes involved in the evolution of the human species. Our species not only developed larger brains, expanded memory, lexicons, capacity for speech; developed complex systems for the representation of reality. Images and texts written in various media constitute the cultural repository, knowledge of the human species. Such records built and maintained by successive generations as symbolic systems are fundamentally dependent on external representation to the brain, extrasomatic to a cultural strategy to expand somatic or internal memory, stored in our brains and bodies. Depending on the level of technological development of human society, the support used for the external memory ranged from rock walls in the Paleolithic to modern optical discs and the silicon memories (Fogliano, 2008). Such developments have initiated an accelerated evolutionary process in which the culture shifts the biology of the protagonism in the evolutionary process. The emergence of the language subjacent to this cultural explosion is the driving force for developments related to the artistic and scientific work, responsible for an unprecedented cultural acceleration process in the history of humanity, which emerged new behaviors and languages in a cyclic process of evolution and complexity.

In the context of the Neural Theory of Language (Feldman, 2006), the subjective experience is the basis from which technical words, abstract, and concepts arise. Neurons and body are central to this process: people, and their neural systems, understand abstract ideas because these concepts are mapped and activated in brain circuits involved in the production of meaning of this experience.

Metaphor, Language and Concrete Experience

The metaphor for Lakoff and Johnson (1980) is not just a linguistic trick or cultural figuration. Typically seen as a feature of language only, it can now be understood more broadly as an integral aspect of thought and action. The conceptual systems that are, in their nature, fundamentally metaphoric (Lakoff and Johnson, 1980 p.3). The discourse on metaphor and culture gave way to a paradigm shift in what concerns our understanding of creativity and acquisition of knowledge. Synthetically defined, the metaphor involves cognitive processes of understanding in a field of information in terms of another domain. Important in this process is the fact that concepts can be categorized into levels of abstraction. Those who are in a more basic level are those most closely derived from actual experience. An example of the organization of concepts can be obtained with the words chair and furniture. You can get a mental image of a chair, but not a generic piece of furniture. According to Feldman, “our concept of chair is related to our ability to sit that, in turn, is closely linked with our bodies. It is fundamentally an incarnated concept” (Feldman, 2006 p.186) The most basic conceptual level is one that characterizes the mental images, gestalt, motor schemes of a category. Superordinate categories, or higher, such as furniture, have aspects of tangible scenario in common, but are more abstract.

It is within the process of interdomain mapping that the new meaning is generated. The process of mapping is important to understand how metaphors create new concepts and meanings. Lakoff and Johnson define “conventional” metaphors or “primary” as those that have evolved within the literal language, by the common use and familiarity. With this analysis, they brought the cognitive linguistic evidence that much of our concepts and metaphorical language representations of the world come from our bodily, interactive experiences with the environment (Cox, 2006 p.90). These are so intertwined in our culture that we literally interpret its meaning.

Creative thinking, according to Lakoff and Johnson (1999 p.90), arises from the invention of metaphors which they termed as “innovative”. Such metaphors allow new inferences about existing mappings. Creative thinking can be considered, therefore, according to the innovation of the metaphor used. In this sense, it can be considered metaphors, being a continuum in which one extreme lies the conventional or primary, and on the other, those innovative. According to this perspective, the artistic work is related to

the production of innovative metaphors. Artistic works can then be considered from the concept of metaphor that is by conceptual maps in various fields that originate in the concrete experience of the body. We know today that the abstract thought comes from these experiences. This expansion is the driving force for the evolution of culture and mind and implies increased sensitivity of the eyes to perceive before unnoticeable, subtleties of reality (Sogabe and Fogliano, 2010 p. 338-345), interpret them and examine them in the light of the productions of presence.

For Lakoff and Johnson, most of our conceptual system is structured metaphorically, which implies that concepts are partially included in terms of other concepts³⁸. This statement leads to consideration of the fundamentals of our conceptual system. For the authors, the foundation of the concepts originates in what they call “direct physical experience”. This, however, can never be considered without taking into account that every experience is a vast landscape of cultural presuppositions. It would be more correct to say that the whole experience is completely cultural, we experience our world in such a way that our culture is already present in the experience (Lakoff and Johnson, 1980; p.56).

Two aspects that concern us here: that culture is where our experiences are constituted; and experiences are based on direct physical experience. In some situations, some experiences may be “more physical” and others more cultural. There are systematic correlates between our emotions and our sensorimotor experience; these form the basis of metaphorical concepts that Lakoff and Johnson call supervisors. Such metaphors allow us to conceptualize our emotions in well-defined terms and also relate them to other semantically close concepts.

As we have seen, for example, the metaphor VISUAL FIELD IS A “CONTAINER” relies on the correlation between what is seen and a delimited space. The metaphor TIME IS AN OBJECT IN MOTION is based on a correlation between a moving object in our direction and the time it takes to it to approach us (Lakoff and Johnson, 1999 p.58).

You can then carry these ideas into the context of art installations, observing now that the space of the work is the arena for direct physical experience. In this context, cultural elements such as images and texts can be the elements of direct physical experience. Therefore, it is possible to imagine a network of sensory stimuli in the physical space. These, cultural objects from other languages, produce a complex network that shall result in an “emerging metaphor or emerging concept” (Lakoff and Johnson, 1990 p.58).

The prospect given above can help us better understand the Dewey's ideas when he says that art objects are many languages and each have their environment, their vehicle and that the vehicle is suitable for a given type of communication (Dewey, 2010 p.215). Installations can be considered complex sensitive aggregates which are physical spaces designed to sensory experiences capable of producing emotional states resulting from an aesthetic experience that the interactor can experience.

Languages and technologies were at the heart of the production of Art, Science and Technology throughout the history of culture. In this sense, we can see how the concept of conscious experience is important for reflections on contemporary cultural production. The concepts discussed here can provide the converged scenario necessary for it to be considered the contemporary artistic and cultural production in all its diversity. They offer us an alternative to the understanding of how language, thought, culture and technology build the paths of culture and new ways to access to reality.

Brian Boyd (2009) brings interesting contributions when he points the art of the evolutionary scenario where also are on the scene cognitive sciences. For the author, evolutionary understanding of human nature began to reformulate various disciplines of knowledge such as psychology, anthropology, philosophy, economics, history, political studies, law and religion. This list can include art and the human mind.

A biocultural approach to literature invites the return of the wealth of texts and the multi-faceted human nature that they evoke. But it also implies that we cannot simply return to the literary texts without assimilating what science has discovered about human nature, minds and behavior over the past fifty years, and considering that these findings may offer a comprehensive literary theory (Boyd, 2009 p.4).

From this perspective, art can be considered a behavior, a strategic game designed to engage human attention through their appeal to our preference for inferentially rich information standards (Boyd, 2009 p. 85). It is important to note that attention is one of the aspects of consciousness and that in this sense, we can consider that the game referred to by Boyd is ultimately a strategy to provoke conscious experiences. This game takes place in a complex environment to allow socially developed minds, especially human minds, to access larger networks of modules of abstract or concrete knowledge (tools). Access that enables facing the new contexts, the assessment of information and the production of inferences and scenarios for decision making. This process is

supported by emotional systems, as described by Damasio in his book *The error of Descartes*. Such systems are the consciousness that also has its evolutionary history in which the emergence of language is a decisive role. In this evolutionary process, the more complex does not supplant the simplest, but integrates it in new ways creating new contexts, or levels of complexity, which favor the development of new functions. This may well serve as a definition for the emergence phenomena and applies in the same way to the definition of metaphor. Art as a mechanism to co-opt the group's attention, offers an interesting aspect in the understanding of Art and as a producer of social cohesion.

To explain the art, we must consider the attention. Art dies without it, how people from Aristotle noted, both inside and outside the evolutionary explanation. The art alters our minds because it engages and reengages our attention from the corners of nursery to the distracted humming. However, art was never considered to have evolved to take on the role of being a stimulator of attention in the human lives (Lakoff and Johnson, 1980 p. 235).

Lakoff and Johnson consider that you can expand to other forms of engagement with the environment, the concepts that underlie the language (Lakoff and Johnson, 1980 p.235). From the point of view of aesthetic experience, the metaphor gives an understanding of a kind of experience in terms of another and may involve all dimensions of experience including aspects of our sensory experiences such as color, shape, texture, sounds, etc. Western culture greatly appreciated the value of the word and the art was never considered seriously as an essential mode of engagement with the world. It is proposed, therefore, to bring to the field of language all forms of artistic engagement. This assumption allows us to consider the theory of language as an integrative scenario for studies of languages not only of words, but the sounds, movements and all other forms of narrative expression such as photography, film, music, theater, design in all its aspects. In the visual arts, images and patterns, qualities, colors and rhythms are carriers of meaning, construct narratives and are mechanisms to produce an experience that produces and transforms consciousness.

Final Comments

It is important to find nexuses between the technological advancements, culture, science and art and the construction of reality itself. The field of art is considered here as production of knowledge. The Technological

Arts are becoming a space of experimentation with new technologies and languages and important insights to offer new alternatives to depleted paradigms. The production in this field of art rescues, as we have seen, essential aspects of art, forgotten under the Eurocentric culture from the eighteenth century. Reengender the role of science, technology and contemporary art. This study aimed to find in the theories of language the way for the construction of a conceptual approach needed to enable a new way of perceiving the fabric of the culture. To establish a sensitive scenario emerging structures of society, without which we would end up coming across to the art or, as stated by Flores, seeing artists and critics cling to surpassed conventions, as in the case of Contemporary Photography, which takes refuge in the proposal of Objective Vision, “incarnating the paradoxical persistence of conventions of twenty centuries of naturalness and duality of the observer and the world” (Flores, 2011 p. 85)

It is considered here that the contemporary way to produce the art is not different than it did over time in relation to the pursuit of material resources, knowledge and mastery, seeking to understand their technical and expressive possibilities for implementation of narratives. What we have today is the complexity of available materials ranging from computers, projection systems and a multitude of languages both conventional artistic and emerging and computer. Contemporary art, especially Technological Art, explores the simondonian way to see in the automatism of technical objects the opportunity to explore the creative possibilities of open systems. Consequently, all around the artist can be considered raw material, as it was already considered in the context of conceptual art. Whether complete devices or their electronic fragments, mechanical or computer code, it can literally be suitable for the materialization of the artistic project. Evidently, there were not outside the list of those materials classically used by artists such as brushes and paint, marble, various metals, etc.

When considering the opening of technical objects, Simondon places them in the universe emergency, creativity, unpredictability and inexhaustible innovation, these features of their own culture. As open systems, technical objects are inherently creative, and their relationship with humans and other technical objects will lead to the emergence of new networks of relations with other technical objects. This characteristic approaches the simondonian concept of individuation that “ap-

proximates them from this notion of individual present in biology, where each individual is a set of articulated device forming a separate body” (Campos e Chagas, 2008). The concept of individuation of Simondon can be compared with the linguistic metaphor in which new concepts or words are created from the appropriation of existing words. In short, the vision of processes of automation brought by Simondon allows us to migrate from flusserian field of finitude of the possibilities and the mere operation of the machines to the field of evolution. In the latter, creativity is limited by environmental links, shifting the point of view of reflection on art and technology to language and darwinian adaptation.

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