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FROM THE ART OF REPRESENTATION TO THE ART OF *PRESENTATION*

a change accelerated by communication technologies and real-time information processing

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Abstract: **In this article, we present principles that help to better understand works of *presentative* art whose artistic strategy relies on the use of real-time information processing and dissemination technologies. We leave open the question of what future cultural implications the proliferation of this type of *presentative* artistic strategy may have in a society where representation has traditionally been a central element of cultural production.**

Keywords: **Generative Art, Representation, *Presentation*, Technology, Semiotics, Culture, Language, Stochasticity.**

Introduction

Representation is still a central practice in cultural production. It has been the subject of study in various fields of knowledge, such as psychology, philosophy, cognitive sciences, computer sciences, musical and visual arts, among others. The emergence of new representation techniques over time has influenced the work of artists. Today, information and communication technologies accelerate processes, allow almost immediate access to and processing of information, facilitating the implementation of *presentational* artistic strategies.

Our intention is not to give an account of the history and various developments of theories on representation. Rather, we aim to briefly present some principles that, in our opinion, contribute to a better understanding of the concepts of representation and *presentation* associated with artistic practices. Our text also aims to help consumers and creators of contemporary art to better understand, analyse and explain works of *representational* art.

The following article is structured in two main sections. The first section is dedicated to a brief presentation of concepts and terms essential to understanding the subject of this article. In this section, we begin by presenting representationism and connectionism as two of the main approaches to the study of representations. We then go on to explain the evident importance of representation in the process of cultural production, as well as its central role in language as a representational system. We conclude this section by distinguishing the act of *presentation* from the act of representation. In the second section of the article, we begin by discussing the roles, functions and importance of representation and *presentation* in the construction of discourse and the artistic object. Next, we relate the speed of access and processing of information to the phenomenon of space-time contraction, referring to the consequent iconoclasm of representation proposed by Paul Virilio. We conclude by presenting a succinct taxonomy of what we consider to be contemporary *presentative* art produced by generative systems.

1. CONCEPTS AND TERMS

Representationalism and Connectionism

Almost all scholars agree that consciousness has a representational basis. Whether consciousness is simply representational or cognitive, it at least requires representation (Brook and Raymont, 2006). The notion of representation has always played a fundamental role in the study of the mind and is simultaneously the basis of the first steps taken in Artificial Intelligence. In the current landscape, two main approaches to the epistemological study of representations stand out: representationalism and connectionism.

Briefly, representationalism considers knowledge to be a phenomenon based on

representations we make of the world, treating representations as context-free symbols. It is a philosophical position in which the world as we see it in conscious experience is not the real world but only a replica of it, a mental/internal representation. Considering the representational approach, with all its intrinsic limitations and according to the foundations of analytical psychology, representations are mental objects elaborated by rules (Marconi, 2001).

Connectionism, associated with behaviourism and associationism, conceives representation as something that emerges from the workings of the neural network and can be located at certain levels of that network (Albertazzi, 2001). Studying the mind from a computational perspective, connectionism is one of the main vectors in the study of AI. In the 1940s, logician Walter Pitts developed the first mathematical model of a neuron, taking a decisive step in the interrelation of Cognitive and Computational Sciences (Saraiva and Argimon, 2007).

Representation and Language

To represent is to produce meaning through language. (Hall, 1997) The Shorter Oxford English Dictionary suggests two relevant meanings for the word:

> *To represent something is to describe or portray it, to recall it in the mind through description (...) to place a likeness before our mind or before our senses. Representing also means symbolising (replacing), (...).*

Representation is considered a central practice of cultural production (du Gay, 1998) because it is the element that links meaning and language to culture. This can be considered as the set of shared meanings. Language, the privileged medium for the production and dissemination of meanings, has always been seen as the key repository of cultural meanings and values. We only share knowledge and meanings because we have access to a common language.

Language operates as a representational system, in which we use sounds, written words, electronic images or objects as signs and symbols to evoke and convey our concepts, ideas and feelings to other people. It is therefore the means by which our ideas, thoughts and feelings are represented. Martine Jolly states that the essential characteristic of a sign is "to be there, present to designate or signify something else that is absent" (Joly, 1994). Thus, representation through language is the central process by which meaning is produced and constructed.

We should not confuse the material world, where people and objects exist, with the symbolic practices and processes under which meaning and language operate. Meaning does not exist in things, people, objects or the world. It is we who fix meanings so firmly that they seem inevitable and natural (Hall, 1997).

Three theories stand out on how language is used to represent the world: the reflective, the intentional and the constructionist. The reflective theory considers that language only reflects a meaning that already exists in the world of objects, people and events; a mirror "effect". In the intentional theory, language expresses the intentional meaning of the speaker, writer, painter or musician. In constructionist theory, meaning is constructed in and through language. Saussure and Foucault respectively develop the semiotic and discursive tendencies within this latter theory.

From a constructionist perspective, representation involves the production of meaning by forcing connections between three different orders: what we call the world of things, experiences and events; the conceptual world - the mental concepts we carry in our heads; and the signs organised into languages that communicate and represent these concepts. In other words, according to Peirce's dynamic triangulation, the sign maintains a supportive relationship between its perceptible face - signifier; what it represents - object or referent; and what it means - interpretant or meaning. (Joly, 1994).

Presentation

Alessandro Oltramari (2005) suggests that a rigorous study of the mind should be oriented towards a comprehensive theory of mental representation that promotes *presentation* linked to the dynamics of forms of cognition and representation limited to a level of abstraction.

More recent studies on the development of this theory establish a bridge between these two notions. When something from the outside world becomes present to the subject, an act of *presentation* occurs - a psychic phenomenon - which reveals a psychological manifestation of that object in the subject. Even though the act of *presentation* depends on the subject's interaction with the environment, there is also a massive amount of information imposed by the subjective act on the object presented.

Presentations correspond to psychological events directed at objects, namely objects *presented* by the act itself; Oltramari gives the example: hearing the sound of a waterfall points to the phenomenal aspect of the object. Brentano's theory of intentionality (Jacquette, 2004) states that every mental phenomenon (every psychological act) is directed at an object (the intentional object).

(Jacquette, 2004) states that every mental phenomenon (every psychological act) is directed at an object (the intentional object). Intentionality states that every belief, every desire, is about an object, the believed, the desired, etc. The subject is not a passive receiver of external stimuli; on the contrary, they actively participate in the perceptual experience, structuring their intentional objects through subjective integrations. In short, the notion of *presentation* is related to cognitive semantics, according to which language is conceived as a complex system directly dependent on perceptual structures, while representations are related to formal semantics, which considers language to be autonomous and context-free.

2. DISCUSSION

Representation and *Presentation* in the Arts

For the most part, the ancient arts are arts of representation. In stage events, the attempt to create the illusion of verisimilitude or reality began in Renaissance Italy in the 15th century. This naturalistic approach dominated the conception and design of stage events for the next three centuries, and its influence is still felt today. Theatrical tradition attaches great importance to the creation of a visual reality on stage, and is therefore more representative than *presentative*. (Banham, 1995) Contrary to this Western trend, traditional Chinese theatre aims to create its own theatrical world, suggesting only a few clues about the space/time of the action, allowing the viewer's imagination to expand freely. The primary objective on the traditional Chinese stage is not to imitate reality but to impress the audience, which also came to happen in opera, ballet or musical events in Western culture. (Zhao, 2005) Representation and *presentation* are two ways of engaging the audience during a performance. In a theatrical performance, actors act as if there were a fourth wall between them and the audience. *Presentative* theatre abandons this imaginary wall, promoting constant contact between actors and audience, involving them in a continuous conversation and making the audience very present. (Card, 1999).

In the field of architecture, *presentative* work par excellence

par excellence, Anne Toft (2006) considers that the architectural experience is restricted to the work itself and direct contact with it. The experience is confined to the immediate association of the subject with the object and cannot therefore be copied or reproduced. Despite this point of view, our understanding and knowledge of architecture and the arts in general, are based solely on representations. Artists have always used representations, which are normally part of the creative and design processes, both as generative tools and as means of communication in the subsequent stages of dissemination, diffusion and propagation of the works. Representations of artistic forms that have been repeatedly exhibited in various media have played an important role in shaping our notion of what Art can be. Therefore, the role of representations in the dissemination of art is fundamental to the development of art and artistic discourse.

Speed, Technology and *Presentation*

The French philosopher and urbanist Paul Virilio, a pioneer of dromology - the science that studies the effects of accelerating speed on society - considers in his work "The Accident of Art" that we are currently experiencing an "iconoclasm of representation" caused by real-time communication and information dissemination technologies.

> *"Due to live, real-time coverage, thanks to the speed of light, presentation has replaced representation."* (Virilio, 2005).

Considering that moving from representation to *presentation* means losing distance, almost like a space-time contraction, the author states that the end of representation has already happened in the press and media and will also happen in art. If we consider the lack of interest aroused by yesterday's newspaper, we conclude that the essence of the press is that news is old the next day. In fact, due to live, real-time glocal coverage, *presentation* replaces representation. Virilio equates this space-time contraction with the pollution of spatial and temporal distances that also threatens the contemporary artistic event, which, once "polluted", only presents itself. From this point of view, the most recent contemporary art, based on real-time information and communication technologies, is a *presentation* rather than a representation. It is art in the present tense, art in real time. What counts is its instantaneity, which runs parallel to the speed of processing and access to information.

Presentative, Generative Art in Real Time

The artistic works that we consider potentially *presentative* in this study are all those that integrate interactive and artificial generative strategies in real time. Emerging technologies, especially computers with their increasingly rapid data processing capabilities and

interfaces for real-time information acquisition, now allow artists to adopt strategies for creating works that are entirely synthetic and/or autonomous. Computer-generated automatic synthesis, like much fiction, may have no referent and is simply *presentative*. Jeffrey Crouse (2006) uses the term "Real-time Art" to identify artistic works that use external information in real time to generate an experience at the moment they are experienced by users. If the information comes from the artistic work itself, then it can also be considered Generative Art.

Generative Art is based on generative systems that suggest an alternative approach to artistic production where hundreds or even thousands of images, sounds or configurations can be created autonomously or generated/calculated mathematically. In these systems, the meta-artist acts simultaneously as a guide and an aesthetic decision-maker, focusing on the structure that produces the work rather than on the work itself. (Macedo, 2002) Generative art refers to any artistic practice where the artist creates a process, such as a set of natural language rules, a computer programme, a machine or other mechanism, which is then set in motion with some degree of autonomy, contributing to or resulting in a complete work of art. These systems, with varying levels of complexity, are often unpredictable because they are ordered and/or stochastic. Valentin Villenave writes on his website:

> *"(...), 'pure chaos' (if it exists) cannot be considered art: the composer has to impose some order. The artistic process is precisely the delicate balance between randomness and rules."*

When designing automatic audiovisual composition systems, the meta-creator, regardless of how, has to teach the computer what to do and how to do it. Despite defining the rules, the meta-artist may not know the exact outcome of their system's production.

All artistic works are, in some way, the product of information such as artistic influences, circumstances, cultural references, etc. In *presentative* artistic works, the manifestation of information occurs at the moment of experiencing the work. In other words, traditionally, circumstantial and cultural forces can influence the work before it is experienced by the observer, whereas in *presentative* art, sources of information external or internal to the work influence it as it is experienced. The presentative work of art is constructed in real time as it is experienced.

We conclude this article by suggesting that contemporary generative and interactive art, which normally integrates real-time computer information processing capabilities into its production systems, is *presentative* for four main reasons. Firstly, by involving the viewer, including them in the system, it causes a contraction of the space-time distances between viewer, artwork and creator, integrating the viewer into the artwork itself and merging the final creator and the recipient of the artistic work into the same being. Secondly, because it may not even have a reference point, as it does not attempt to mimic or represent reality or the artist's ideas. Thirdly, because the aesthetic manifestation of the work takes place in real time at the moment it is directly experienced by the individual. Finally, because it is an ephemeral experience that does not last over time, unpredictable due to stochastic processes, it is very unlikely that it will ever be repeated.

3. CONCLUSION

This article briefly distinguishes between the concepts of representation and *presentation*, contextualising them within the panorama of cultural and artistic production strategies. The main purpose of this text is to facilitate the identification, understanding and analysis of *presentative* artistic works, especially those that use real-time information processing, dissemination and communication technologies in their strategies. By referring to the central role that representation has played in language and cultural production, and by identifying the profusion of *presentative* artistic strategies in contemporary art, we leave open the future cultural implications that this profusion may bring to society.

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