

## GUEST EDITORIAL PREFACE

# Special Issue on Digital Media-Art: New Experiences in Arts and Technology

*Mirian Tavares, Research Centre for Arts and Communication, University of Algarve, Faro, Portugal*

*Unlike Newton and Schopenhauer, your ancestor did not believe in a uniform and absolute time; he believed in an infinite series of times, a growing, dizzying web of divergent, convergent, and parallel times. That fabric of times that approach one another, fork, are snipped off, or are simply unknown for centuries, contains all possibilities. (Jorge Luís Borges)*

### **ARTS AND TECHNOLOGIES: OR THE GARDEN OF FORKING PATHS**

In the Western world, art started as *techne* – technical skill. The Greeks spoke about beauty and technique, not about what we call art today. They created manuals, canons from which we traced a path

until the moment when *techne* came to be known as *ars* by the Romans. ARS/ Art – a Latin word meaning articulation. Art was seen as the capacity to articulate ideas with different supports and materials as well as the capacity to technically resolve a problem raised by matter. The need to create a specific field for the Fine Arts within the vast field of the “arts” occurred precisely because what is conventionally denominated as Art belonged to a larger universe and, as such, artists wished to find its specificity and emphasize it.

The arts included a set of rules and the artist was someone who abided by and/or improved the rules of his/her *metier*. In the Renaissance period, the artist assumed the role of creator, not only as a craftsman, but as someone

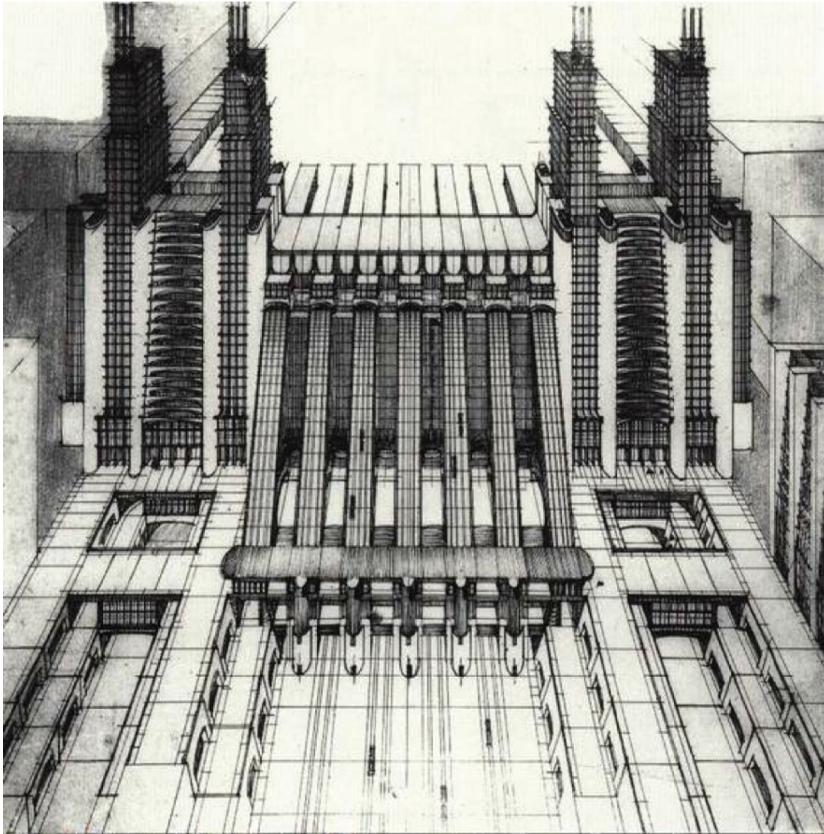
who conceived the oeuvre before it was executed. The basis of the Renaissance revolution was entirely supported by sciences: maths, physics and geometry, which assumed the role of artistic creation parameters. The artist was not merely someone who executed but, above all, who thought it. At the same time, when modern science was taking its first steps, it looked at the surrounding world and realized that it needed to be measured, organized, and instrumented in order to be understood. Bacon, Leibniz and so many others, like Galileo, argued that science should look at things and not just theorize about them or accept immutable truths from the world of faith. The Industrial and French Revolutions changed art and culture focusing on knowledge distribution and citizen valorisation. The 19<sup>th</sup> century emerged with new technological supports: photography and cinema. The end of the 19<sup>th</sup> century is marked by the beginning of New Art, standing on a rational and architectonic base that explores at the same time the shapes of nature and the organicity of the world and world objects. Architectural engineering in the 19<sup>th</sup> century explored new materials and redesigned cities, many of which became metropolis. New subjects emerged with new needs in an also new world. Avant-garde movements appeared as an answer to the anxieties of humanity before new supports, new laws of physics, and a new world that (re) configured itself before everyone's eyes. There were several avant-garde movements. Some of them were deeply anti-ethical, but they all addressed fundamental questions: what

would be the new conception of Mankind and History? What would be the best way to create in a period of unprecedented technological development? Fascination for the machine appeared and became the definite intermediary between man and the world.

The avant-gardes were essential because they helped people understand the transformations that surrounded them and deeply altered their perception of space and time. Art was returning into itself, in a centripetal movement that denied the intrinsic need to reproduce the world. Artists at the beginning of the 20<sup>th</sup> century were not afraid of the new, on the contrary, they wanted to know and explore it. And the novelty arrived in the form of new technologies, of new uses for old ideas. It was through the influence of avant-gardes that cinema became known as the 7<sup>th</sup> Art while for the rest of the world it was merely perceived as a low-cost form of entertainment. Artists also appropriated photography, which ceased to be a weapon to register the world to become a new form of creation, a support for possible and unlikely experimentations (See Figure 1).

The use of technologies by avant-gardes was always disruptive. Technological supports lost their programmed functions and acquired new configurations. The relationship between art and technology is not new. We have referred that in the Western world art started as techne and the moment of rationalism renewal – the Renaissance period – marked by the rise of humanism, promoted an enduring bond between art and science, between artistic thinking and

Figure 1. *La Città Nuova (New City)* - Antonio de Sant'Elia, Futurist Architect, 1912



mathematical logics. Later, the Theory of Relativity and new developments in Physics influenced the theories of cubist artists while Psychoanalysis became the root of Surrealism. Futurists were condemned for their “modernolatry” and for defending that war with its battlefields and new weapons of mass-destruction created by mankind were as beautiful as or even more beautiful than all the art produced by classics.

The fascination for machines reached, in one way or another, the avant-gardes, which looked at new technologies not only as a factor of dehumanization, but also as a possibil-

ity of integration into the new reality. Marinetti stated that “a roaring motor car is more beautiful than the *Victoria of Samothrace*”. Gino Severini, one of the greatest Futurism theoreticians, enthusiastically asserted the aesthetical possibilities of science, even coming to believe that “the process of creating a machine did not differ in essence from the process of creating a work of art”, in this way it is easy to understand the relationship between avant-gardes and new technological supports. Dadaism, according to Benjamin, was a movement that helped to alter the perception of the world and art through shock: its works

provoked spectators, destabilizing them and uprooting their already intrinsic certainties. Spectators would leave their comfortable places of contemplation and were forced to interact with objects and enjoy them in a new way. Like in cinema, images were projected at an intense speed that altered the relationship with time and space.

For Futurists and Dadaists, as for other general avant-garde movements (Constructivism, Surrealism), the new technological supports were perfect for the new art that they proposed. The machines, for the Futurists, especially the cinema machine, unveiled infinite experimentation possibilities. The Futurist Manifesto of Cinema, originally published in 1916, stated that cinema “born only a few years ago, (...), lacking a past and free from traditions”, could become the ideal instrument for *new art*, due to, among other reasons, its “*pollyexpressiveness* towards which all the most modern artistic researches are moving.”

The avant-garde movements deeply marked 20<sup>th</sup> century art and culture and promoted a real revolution in the relationships between Arts and Sciences (with their technological devices). The second half of the 20<sup>th</sup> century is marked by the World War, which destabilised the relationships between Art and its surroundings and provided more visibility to the new modes of production and dissemination of Art Culture, as well as Science and, above all, Communication. Theories such as Cybernetics were created in an attempt to bring answers to the

complexity of the relationships between people and their surrounding universe. The Cybernetics Theory is based on a principle: disseminate the whole through its relationships. The word cybernetics derives from the Greek verb *kybernein* (to steer), in other words, the technique used to conduct a ship properly. Plato added a new sense to the word: not only to manage the course of ships but also that of the entire society – to govern. In 1886, English physicist James Clerk Maxwell uses the term to refer to machine controlling artefacts and in the 1940s, Norbert Wiener uses the term to designate: “the full command of the Theory of Communication and control in the machine and the animal.”

Wiener uses time to consecrate Maxwell’s work, the control of machines is fundamental and that such activity reproduces, in a different scale, the technique of steersmen and the art of governing. It is necessary to understand that, in the universe of technology, everything is interconnected. The so-called Information Society did not appear with the first computers and networks, but much earlier, at the dawning of Modern Science. Knowledge is, above all, the act of controlling, producing and disseminating it. In the 17<sup>th</sup> and 18<sup>th</sup> centuries, Mathematics enjoyed a prominent role – it was seen as a model of reasoning and useful action. Only what was countable and measurable was relevant to science. Mathematics provided a democratic and sharable model of knowledge insofar as numbers, unlike languages, are in principle universal.

In the 17<sup>th</sup> century, Leibniz (1648-1716) stated that knowledge could be manifested inside a machine. He then elaborated binary arithmetic with the purpose of simplifying and compressing knowledge, hence turning it accessible and decodable. Leibniz's project and those of other scientists such as Francis Bacon demonstrate a new attitude towards time and space. Speed started to become part of daily life logics. Leibniz proposed the creation of an ecumenical language that would enable communication among all peoples.

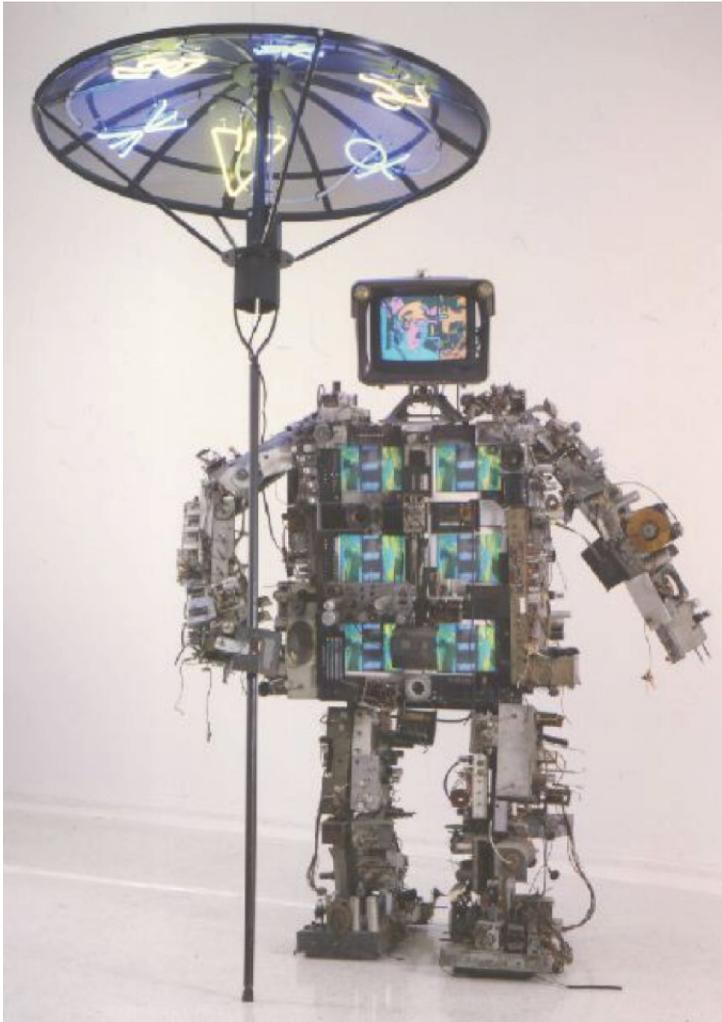
As such, the necessity to understand the system as a whole, the world as a village, can be well represented by the Black Box problem: only knowing the whole is it possible to understand its functioning and the causes and consequences of the connections established. Art enters this logic, ceasing to be part of a world "out of the world" and interconnects with new technologies and the new philosophy that ruled the era of Communication. If traditional Art rejected, in principle, cinema and photography, historical avant-gardes, as we have analysed, appropriated these new media eagerly to find ways to rebel against the pre-established model of Art, academic and disconnected from its own time. After the end of World War II, the world entered a new era – more machine-oriented and hopeless. The arts went through changes and started to be called Contemporary Art, because the Utopia of Modern Art was no longer contemplated by artists that emerged after the world conflict.

Some of the artistic movements interacted directly with machines with the purpose of using them as a means of dissemination or to invert its functional logics and question man/machine relationship. At that time, some of Duchamp's ideas were taken up again as, according to one of the fathers of Dadaism, art would result from thought, artists were not art-makers, but rather creators-operators of ideas. During the 1960s, the relationships between arts and technologies grew stronger and in 1965, with help from artist Robert Rauschenberg, Billy Klüver sought the expertise of engineers at Bell Laboratories (Murray Hills, New Jersey, U.S.) to participate in an interdisciplinary project blending avant-garde theatre, dance and new technologies.

In 1967, E.A.T. – Experiments in Arts and Technology was founded and promoted the *9 Evenings: Theatre and Engineering* Festival, a series of performance art presentations that united artists and engineers. Still in the 1960s and at the beginning of the 1970s, several experiences promoted the merging of art and technology, creating within art a new category of objects that are now included in what is usually known as "Digital Art" (See Figure 2).

In 1992, Anne Cauquelin published her book *Contemporary Art – An Introduction*, presenting to the reader a new possible form of art, Technological Art. Today, after the development of new theoretical proposals and the evolution of this support, it is possible to talk about

Figure 2. "Global Encoder" - Nam June Paik, 1994



Telematics Art, Pixel Art, Digital Art, Net Art, Wiki Art, etc.

## ARTICLES IN THIS ISSUE

The articles compiled in this issue reflects upon some of the creative processes that are being developed by students and lecturers of the doctoral programme in digital media-art (a joint offer of

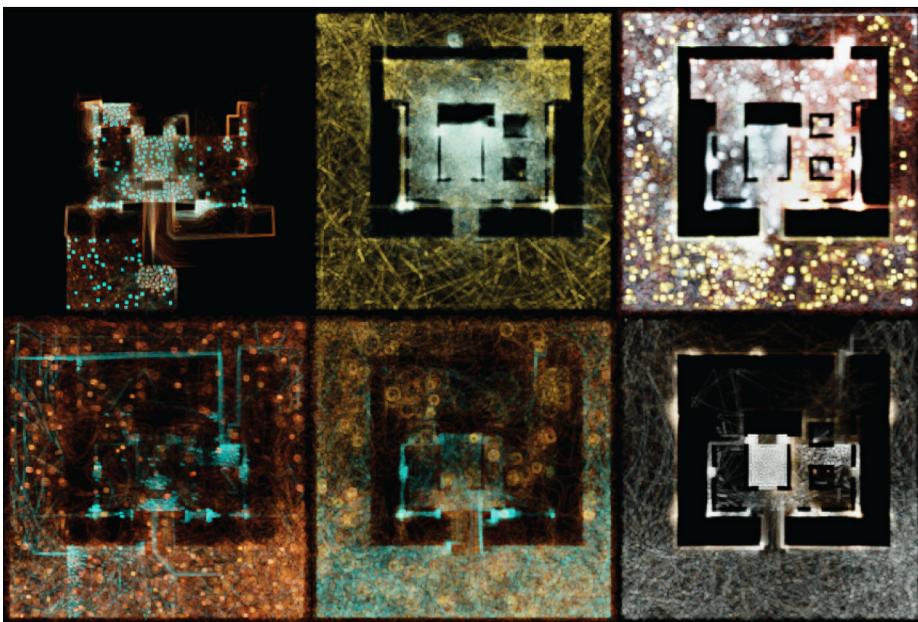
University of Algarve and Universidade Aberta), who are active in developing a line of research that brings together artistic and scientific research, promotes the review of formatted traditional Arts categories and enables the experimental creation in a broader environment, often bringing, as did the Dadaists, spectators into the work of art, taking them out of their comfortable space of contempla-

tion. Actions proposals are established to answer or discuss how art questions technology and vice-versa. If art ceased to be techne to convert into Fine Arts, distancing itself from the primordial technical questions that generated Western art canons, contemporarily the notion of a return to techne is relevant: on the one hand because the relationships built between arts/sciences and technology over centuries became increasingly productive and, on the other hand, because art itself, following the advent of avant-gardes, experienced a process of deep transformation that questioned the principles established by History of Art and its definitions and, at the same time, complexified the relationship between the artist and materials and new surrounding realities.

In *Between the sacred and the profane in the S. João d'Arga's festivities: A digital art installation*, Mário Dominguez proposes an incursion into the mythical world of religious processions through the experimentation of an interactive digital artefact that turns spectators into co-authors of the journey of devotees and the journey is transformed into a graphic element that changes with each interaction (See Figure 3).

Tiago Cruz and co-authors present an installation project that mixes video art, drawing and electronic devices, mediated by the semiotic concept of landscape, according to which landscapes are not only something to be enjoyed or looked at, but something that holds deep and precise cultural meanings. *CultureNatura Arga 2 #* includes an interactive device,

Figure 3. *Between the sacred and the profane in the S. João d'Arga's festivities* - Mário Dominguez, 2013



a cube, which allows the spectator to interact and alter landscape.

*The New Light: a site specific light mapping intervention*, by Rudolfo Quintas, presents a more mythical vision of *video mapping*, using the idea of illumination in a broad sense as well as in a religious sense (as the installation is developed on the altar of an old church in Óbidos that has been converted into a Sacred Art Museum).

Cinema, one of the first technological media to be appropriated by the arts, is reflected on the post-doctoral project developed by Bruno Mendes da Silva. *THE FORKING PATHS: an interactive cinema experience* offers a new role to the spectator, the role of co-author in the narrative. Through an interactive digital platform, spectators definitely leave their passive role and act as authors of narrative, choosing the path they want to follow, hence altering the final result of the story.

All works have been developed as part of experiences proposed within the doctoral programme in digital media-art and their presentations are grouped in the programmed activities of the doctoral retreat taking place in July 2013. With regards to the abovementioned projects,

the medieval city of Óbidos has provided us with several exhibition spaces to host media-art experiences and allow artists/researchers to expand their concepts into space and experience, in community, the reactions and relationships that art maintains with the world in a moment when our relationship with the real is increasingly more mediated by digital supports. As in the avant-garde period, we provide students with the opportunity to deep dive into experimentation while promoting the production of reflective thought on the intervention of art and science in the times we live in.

## ACKNOWLEDGMENT

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*Mirian Tavares*  
*Guest Editor*  
*IJCICG*