

## Bio Art meets the streets: A reflection on new forms of art engagement

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### Resumen

El arte público, a pesar de su extensión a los paisajes urbanos, ha sido una práctica limitada en términos de discusión crítica. En este sentido, se ha utilizado más como una forma urbana de remodelación o, en cambio, como una forma de expansión de la audiencia del arte.

Sin embargo, el arte público puede ser entendido como una práctica social, creando una mayor conciencia fundando un amplio discurso crítico y contribuyendo para la democratización del acceso a la práctica artística. En este sentido, hay un creciente número de artistas que cree que el arte y el papel de las entidades públicas no es tan sólo crear objetos de arte permanentes, sino facilitar la creación de obras que promueven acciones, ideas y la intervención del público concibiendo el objeto de arte como algo que salude la responsabilidad social.

El Bioarte ha tratado de demostrar, a través de su discurso estético, la necesidad de establecer un debate público más amplio. Por lo tanto, en este artículo vamos a destacar la importancia de un proyecto de arte público de Natalie Jeremijenko – OneTree (s) (2000). A través de las preguntas que esta obra plantea, vamos a reflexionar sobre la forma que la intersección entre arte y tecno-ciencia puede contribuir para una mayor extensión de la idea de “humanidades duras” y en cómo esta reflexión crítica puede ser ejercida a través y más allá del mundo del arte hacia un campo que implique en el mismo discurso, la ciencia, la sociedad y la red urbana.

*Descriptor:* Bio arte, Arte Socialmente Comprometido, Humanidades Duras, Responsabilidad Social.

### Abstract

Public art, despite its extension to the urban landscapes, has been a limited artistic practice in terms of critical discussion. In this sense, it has been used as an urban form for remodelling or, instead, as an ordinary form of expansion of the artists' audience.

However, public art can be understood as a social awareness practice creating the need to set up a broader critical discourse contributing to a greater democratization of the artistic practice. In this sense, there has been a growing number of visual artists who believe that art and the role of public entities isn't just the creation of permanent art objects, but rather a way to facilitate the creation of artworks that encourage actions, ideas and the intervention of the audience, making the public artwork an object that calls to social responsibility.

Bio art has tried to demonstrate, through its aesthetic discourse, the need to establish a broader public discussion. Thus, in this paper we will highlight the importance of an odd art public project of Natalie Jeremijenko – One Tree(s) (2000). Through the questions raised by this artwork, we will reflect on how the intersection between art and technoscience can contribute to a greater extension of the idea of hard humanities and on how a larger critical reflection can be exercised through and beyond the art world toward a field that involves in the same discourse art, science, society and the urban network.

*Keywords:* Bio art, Public Art, Social Art Engagement, Hard Humanities, Social Responsibility.

*“Artistic expression now appears as a necessarily ambiguous mediator between personal conviction and public representations.”*

Nato Thomson, *Living as Form*.

## Introduction

It was not until the early 90s that a new awareness, in the methodology of public art, became more visible, particularly in finding a wider and a participatory audience. There's an important and particular episode accomplished by Suzanne Lacy that marks this methodology change. This was formed when she distributed, in the city of Chicago, a hundred limestone's decorated with plaques honouring some of the city woman's. This public installation appeared disseminated mysteriously in sidewalks, squares, parkways corners, in the city centre and intended to launch a program of temporary exhibitions titled *Culture in Action: New Public Art in Chicago*. It was expected, in this cultural event, the beginning of the breaking frontiers of the current methodologies of public art (BRENSON, 1995).

This exhibitions cycle held in the city of Chicago was focused especially on the active participation of his city residents in the creation of the artworks. According to the press release, this exhibition could “*establish a new vocabulary within the genre of urban sculpture*” (KWON, 2002, p. 100) and, to that end, they tested the territory of interaction and audience participation, the artist role as an active social force, and also a novelty in the art system of that time, ie, the educational programming directed by their own actors. The artworks available in the exhibition cycle corresponded to what the art critic Arlene Raven identified as an “*art in the public interest*” (RAVEN, 1993, p. 1), ie, activist artworks whose expression covered a variety of mediums such as painting, sculpture, street art, guerrilla video, billboards and many others. But what I want to emphasis here isn't, yet, the medium, but the fact that these art interventions where in the interest of the public sake and represented one of the first attempts to establish direct intersections with social order issues. This exhibition, among many others that followed since, encouraged the community to build a social common sense through art and a new way to harvest institutional capacities so that artists could set their role as social agents.

These socially engaged artists “*aspired to reveal certain situations and to defend causes (...) incorporating humanitarian values*” (RAVEN, 1993, p. 4). In addition, the society also required, even if in an inexpressible way, a broader involvement of the cultural field in the decision making, representing minorities or using the artists influence within the art world (museums, foundations, galleries, funding agencies, or others) in order to contribute to a change in the government policy specially in some social issues (RAVEN, 1993, p. 18).

Consequently, the historical reference point from where I depart on this paper is the 90's and the beginning of social engaged public art interventions. However, I would like to introduce to this paradigm a “new” artistic genre of critical inquiry – bio art – which despite having a great load of social engagement, it was just until recently that they ventured to create public

artworks. Thus, I'll subdivide this paper into three main parts. First, I'll focus on a brief narrative of bio art until his first incursions in public art. Secondly, I'll discuss a project of Natalie Jeremijenko where this social engagement is quite visible and, finally, I'll conclude with a reflection on how the intersection of technoscience and artistic creations can contribute to a wider community engagement and to rethink the critical reflection that art plays in contemporary society through the urban network.

## Bio art: Treading a long way from the laboratory to the streets

If we follow art history, we can easily identify that the period where artistic practice placed a greater emphasis on the intersection between technology and science happens at the same time that communication networks expanded, namely, the 60's, 70's and 80's of the 20th century. This period has revealed himself as the incubator moment of interdisciplinary collaborations and marks, simultaneously, an aesthetic discontinuity. As a consequence, these decades also reveal the moment in which the firsts art projects in the intersection of art and biotechnology arise even if, some years before, this intersection was already exceed by the first exhibition that ever involved artistic production and living materials: The 1936 exhibition at the Museum of Modern Art (MoMA) of Edward Steichen and his genetically altered *delphiniums* (SANTOS, 2013, p. 15).

Despite the Steichen exhibition, it would be in the late 90's that artworks based in the network begin to rely in models of interpersonal communication and these new artworks wouldn't aim at a specific audience but to a wider field of action. Therefore, these artworks began to aim at something less specific and became something in transit – a real *work in progress*. It is also in this historic moment that artists such as Eduardo Kac and Joe Davis, boosters of this artistic genre, created works related to telecommunications and robotics, ie, precisely at the same time when the Internet became accessible to all audiences as well as the period where large investments became visible in the biotechnology industry. As a consequence, it was during the 90's that they began their approach, quite unique, to the combination of several fields of knowledge that became essential to what is commonly labelled as bio art: the combination of aesthetics, informatics, communication and biotechnology.

One of the artworks that best summarize the extent in which the bio art operated in the late 90's and is relevance in dialogical communication is the art installation *Genesis* (1999) of Eduardo Kac. This artwork allow to illustrate that the majority of the inaugural bio art artworks relied on the recontextualization of the molecular biology cryptographic period in a resupply cycle between art, informatics, science, biology and audience. *Genesis* is, therefore, a transcription of a phrase of the Genesis book to Morse code and, thereafter, to a DNA code. Once obtained the DNA code of the *Genesis* sequence Kac provided it to the Director of the Medical Genetics of Illinois Masonic Hospital, who created and lodged it into bacteria. The next step was to put the bacteria on a Petri dish and exposing it publicly. Thus, the Kac *Genesis* installation consisted in a microscope, a UV light source, a web server and the enlarged projection of the bacteria (KAC, 2007, p. 139).

It is precisely at the moment of the public exhibition that Genesis gains a global dimension, since the viewer can contribute to the mutation of the bacteria and via World Wide Web, manipulate the UV light source on the Petri dish. At the end of the exhibition, Kac operates the reverse process, which is, the code is transcribed to a DNA sequence, then to Morse code and, finally, into English. In conclusion, the mutation of the Genesis bacteria is operated through the interaction of the audience causing a partial change of the biblical sentence. The phrase and its translation/conversion to code is one of the key elements of this artwork and represent the importance that the encryption holds in bioinformatics. The choice of Morse code is related, according to Kac, to the origin of global communication (KAC, 2007, p. 164). But what interests us most, is that the result of the artwork merely depends on the audience participation in a social orchestrated situation. In this sense, when we visit the *Genesis* we are participating in the bacteria mutation *per se*. Hence the prominence I like to give to this artwork is related to the fact that it represents one of the first artworks that transformed genetics into an interactive interface and materialized, simultaneously, a demonstration of man's ability to recode the surroundings transforming microorganism by microorganism.

On the other hand, artworks such as Genesis help us to understand some of the initial bio art problems at the turn of the 20th century. These difficulties were mainly related to: (1) The access to laboratories and biotechnology materials by visual artists, a situation that despite having been improving, it still constitutes a major effort in artistic creation with this medium; (2) The complexity and limitations of the transportation of bio art artworks, works composed by biological material have recurrent limitations in legal terms especially after 9/11; (3) The low acceptance by art institutions (galleries, museums and other exhibition space) which could allow a greater dissemination of this kind of artistic practice.

These particular concerns allows us to sustain that most bio art artworks produced at the turn of the century were imprisoned by collaborations, both in terms of production (with laboratories and scientists) as in public display (spaces willing to exhibit these artworks). However, in the last three decades this paradigm slowly started to change, largely due to strategies constructed by the artists themselves where we can highlight: In first place, the creation of laboratories and platforms for the collaboration between scientists and artists such as the Centre SymbioticA (Australia). Through numerous activities, SymbioticA, has been able to promote an artist *"engaged with scientists and appreciate, as well as criticize the work done in the laboratory from a much more informal stand"* (CATTs et al., 2008, p. 155); Secondly, the beginning of a process in order to involve art institutions as well as the audience. In the institutions this has been possible, for example, through the emergence of new art spaces that support these kinds of interdisciplinary artistic creations, particularly in applied research facilities or universities such as Science Gallery (Dublin) or the Henry Gallery (Washington). At the audience level, this change was mainly made possible through making the audience an active participant and given him the capacity of being more engaged with the artwork. Thus, it will be through a greater participation of the audience that it is possible to realize the power that this art genre might have when is not connected to a dominant truth but, consequently, it is by removing the audience form a state of complacency that the artists can disturb, simultaneously, the audience and the art frontiers.

As a result, it was these conditions created over three decades that allowed the creation and dissemination of this new type of art interventions and the slow departure from the containment laboratories or specialized festivals (such as Ars Electronica Festival) to a broader audience. This set of changes allowed bio art to inhabit galleries, museums and, more recently, the streets.

## **Project One Tree(s): The Bio art looking out in the street**

It is known that postmodernism developed under the aegis of the impact of science and technology and under the influence of the European rationalist thought of the seventeenth and eighteenth-century. The industrial culture was, in this sense, shaped by Enlightenment ideas and by the writings of thinkers that, in part, rejected the influence of dogma by looking for other rational ways to understand human condition. However, the world we inhabit does not resemble to that one which was imagined. Some of the reasons that led humans to think that life would become more stable and presumably better, including the role that science and technology would play, had completely fail. Climate changes and their associated risks, for example, resulted from human interventions in the environment. In this sense, it should be by creating an interdisciplinary and a critique thinking that we can assign a dynamic role to science and technology in order to minimize future environmental risks.

The *One Tree(s) Project* by Natalie Jeremijenko, initiated in 1999, is one of most consistent attempts of the designated bio art, and plays a catalyst role in the intersection of art and science with a strong social commitment. In this artwork, the artist proceeded to the cloning of 1000 trees establishing an intricate interplay between environmental influences, audience, social discourse and, concomitantly, the potential role of new technologies in art. This project consisted in cloning trees and, afterwards, micro-propagate them in the urban network. Jeremijenko started this project in an artist residence at the Yerba Buena Centre for the Arts in San Francisco and the initial result was partially exposed for the first time in an exhibition organized by Exit Art titled *Paradise Now* (HEIFERMAN, 2002).

Since the 2003 spring, the cloned trees began to be slowly planted in public places throughout the San Francisco Bay area. The artist choose places like the Golden Gate Park, numerous schools parks, the Yerba Buena Performing Arts Centre, the Union Square, among many others. However, despite the genetically identical trees, they started to developed many differences in size, health, texture and so on. Such alterations are, in the opinion of the artist, caused by the social and environmental differences to which they are exposed in the place where they were planted (STEVENS, 2008. p. 46). In this sense, the trees growth engrave the space experiences and its contingences and, therefore, the *One Tree(s) Project* operates as a network tool that charts the microclimates of the San Francisco Bay area as a biological tool, that is, an artwork in total transformation. Thus, each tree can be compared by the audience as they wander through the streets where they were planted. The artist presents, therefore, a

quiet and persistent display of various environments of the San Francisco Bay area allowing the viewer to witness how the environment changes occur due to human intervention<sup>1</sup>.

This project is based, therefore, in two major conditions, that I want to highlight: The first one is based on the broad knowledge of these interdisciplinary projects that are attractive and ethically grounded in a new ecological order that addresses important issues related with the inter-relationships networks between physical, biological, cultural, political and historical. The *One Tree(s) Project* allows us to inquire, to create new metaphors, to identify patterns or weaving stories that aim to inspire a true relationship with the environment. Secondly, and as a bio art artwork, it leads us to question the rhetoric discourse present in the biotech industry, which claims the demand for the improving of mankind. Since the time that the manipulation of DNA was discovered, new forms of biological life have been created and the science discourse continues to repeat the statement of man's superiority over the rest of species. However, the intentions of this kind of art projects that uses biotechnology tools to their benefit, is quite different that the biotechnological industry discourse, since there are no attempts to enhance the line that places humans hierarchically above all other living beings. This artwork allows, in fact, the interaction of an interspecies interchange and reconfigures, in a refreshing and ingenious way, the debate between the Two Cultures. Additionally, these kinds of art projects encourage us to think about the human's impact in our own environment.

## Final remarks

Based on this short presentation, we can say that visual artists are starting to embody as a new striking figure, especially for their ability to predict paths where once there were only walls (segregated to specialists). These new conceptions are quite important, since these interdisciplinary and collaborative artworks can help us to provide new answers that the specialization brought by globalization of disciplines couldn't reach. Thus, art projects such as *One Tree(s)*, dedicated to pedagogy and reorientation of values in life sciences, are able to bring a new scientific knowledge and allow that certain "data" could be understood by non-experts in an innovative and uncompromising way. For readability of data we mean a complex phenomenon that might allow the common citizen (the non-specialist) to involve himself through their senses with a new art interface.

All these kind of artistic interventions, as many other examples such as *Pigeon Blog* (2006) of Beatriz da Costa, lead us to assure that the arts and humanities are at this time in the front line of a cultural change needed to develop a society that must be environmentally sustainable. We cannot leave this matter solely in the hands of political authority or scientific specialists, and we must require more authority to an interdisciplinary dialog within the arts, humanities, sciences and the public interest. This dialog might result in a social transformation and, such as noted by Roger Malina, we can uphold to the intervention of *hard humanities*, ie, a moment of awareness where the intersection between science, artistic creations and the participation of the civil community can contribute to build a new critical reflection on human enactment (MALINA, 2009, p. 184).

In short, the main concern of this public bio art project lies in addressing some of the following questions to a broader audience: How does a non-specialist audience engage in scientific data? How a theme such as environmental issues, can be addressed through artistic means, in a clear effort to increase public engagement and support new solutions? How can we develop an interspecies relationship, one that might benefit all species? How can we rewrite our relationship with technology and the city, and build our own “hardware” and sensing devices? In sum, these are some of the questions that are being asked by these new art projects that require a total reconstruction on many existing social conventions. But the kick-off is already given by these art projects and we hope, still, that this interdisciplinary dialog and commitment might bring new solutions to both fields in the near future.

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(Artículo recibido: 14-06-2013 ; aceptado: 12-07-2013)