AT THE BIOCULTURAL BORDERLAND: THE UNFOLDING OF MULTISPECIES ENCOUNTERS IN LATIN AMERICAN BIOART

Azucena Castro
University of Stockholm
Abstract || The purpose of this article is to analyse two instances of bioart, namely, Allan Jeffs’ installation *Ex+sistencia* and Luciana Paoletti’s photographs *Retratos*, from the post-humanist perspective of multispecies encounters. According to Mitchell (2010), bioart engages artistic and scientific procedures bringing about hybrid works that explore a concept or that seek to involve the spectator in biotechnological procedures to promote the debate on the problematic of technology. Based on that theoretical framework I study how bioart experiments with living microorganisms found in human bodies and visual media to explore the co-habiting of humans and bacteria in our own bodies, thus deconstructing dominant ideas on human nature and the human body.

Keywords || Bioart | Multispecies | Biocultural borderland | Allan Jeffs | Luciana Paoletti

Resumen || El propósito de este artículo es analizar dos ejemplos de bioarte desde la perspectiva poshumanista de los encuentros multiespecies: por una parte, la instalación de Allan Jeffs, *Ex+sistencia*, y, por otra, las fotografías de Luciana Paoletti, *Retratos*. Según Mitchell (2010), el bioarte articula procedimientos artísticos y científicos para producir obras híbridas que exploran un concepto o que buscan involucrar al espectador en procedimientos biotecnológicos para promover el debate sobre la problemática de la tecnología. A partir de este marco teórico, estudio cómo el bioarte experimenta con microorganismos vivos que se encuentran en cuerpos humanos y medios visuales para explorar la convivencia de seres humanos y bacterias en nuestros propios cuerpos, deconstruyendo así las ideas dominantes sobre la naturaleza humana y el cuerpo humano.

Palabras clave || Bioarte | Multiespecies | Frontera biocultural | Allan Jeffs | Luciana Paoletti

Resum || L’objectiu d’aquest article és analitzar dos casos de bioart des de la perspectiva post-humanista de les trobades multiespecies: per una banda, la instal·lació d’Allan Jeffs, *Ex+sistencia*, i, per l’altra, les fotografies de Luciana Paoletti, *Retratos*. Segons Mitchell (2010), el bioart articula procediments artístics i científics per a produir obres híbrids que exploren un concepte o que busquen involucrar l’espectador en procediments biotecnològics per promoure el debat sobre la problemàtica de la tecnologia. A partir d’aquest marc teòric, estudi com el bioart experimenta amb microorganismes vius que es troben en cossos humans i mitjans visuals a fi d’explorar la convivència d’èssers humans i bacteries als nostres mateixos cossos, deconstruint així les idees dominants sobre la naturalesa humana i el cos humà.

Paraules clau || Bioart | Multiespecies | Frontera biocultural | Allan Jeffs | Luciana Paoletti
0. Introduction

The shift that has occurred in recent decades in the way we consider and conceptualize humans’ relations to their surroundings comes hand in hand with new forms of artistic experimentation and new ways of thinking about what the human body is. The transgenic artistic practices denominated bioart pose new questions as to the nature and limits of the human, and the interrelations between life, art, science and culture. Some works of Latin American bioart experiment with organic materials, visual media and biotechnological techniques re-signifying the body and addressing new interfaces between humans and microorganisms.

In this article, I discuss the collaborative existence between humans and microspecimens as it is presented in two bioartistic projects, namely the installation Ex+sistencia by Chilean visual artist – now living in Ecuador– Allan Jeffs and the photographic work by Argentinian visual artist and microbiologist Luciana Paoletti. These projects combine visual media such as photography, portraiture and installation with techniques from microbiology creating a kind of bioart that emphasizes our immediacy to other species. The use of living materials as part of the medium of photography and installation, as Mitchell (2010) indicates, situates bioart at a crossroads between «inorganic matter and living beings, as well as human social institutions and relations» (26). I argue that Jeffs’ and Paoletti’s bioartistic works use the human body as a material archive that opens for the expression of imperceptible and unthinkable microorganisms that co-habit our bodies. In Jeffs’ and Paoletti’s works the body becomes a site of biocultural borderland defined as «places where species meet» (Kirksey, 2014: 13). The human body unravels microbiopolitical entanglements through revealing the cohabiting of people and bacteria. In what follows, I first describe the two instances of bioart. Subsequently, I discuss how the agency of the non-human world is exposed in these bioartistic works and what kinds of relationship the projects facilitate between spectators, biotechnology and culture. In my discussion, I focus on how bioart explores new junctures between aesthetics and politics through the cross-contamination of art and science.

1. Ex+sistencia by Allan Jeffs

Ex+sistencia [Ex+sistence] originated from a trip to Antarctica that Jeffs made with an Ecuadorian research expedition aimed at studying microorganisms at the Ecuadorian scientific station. On that continent, he placed five entities shaped like penitents in different places on the impressive white landscape. Penitents are pointed
snow formations typical of the Andes region that resemble kneeling people in religious processions. These entities’ bodies were made of fiberglass by an Ecuadorian family who constructs traditional años viejos, i.e. gigantic dolls made of paper or old rugs to be burned on the 31st of December, marking the end of the old year and the beginning of the new one. These fiberglass bodies were covered with traditional toquilla cloaks, handmade from women weavers from coastal communities in Ecuador. Jeffs placed the entities in different natural scenes of the continent, exposing them to the temperature and the wind and he photographed them (Fig 1 & 2). Later he exhibited both the photographs and the figures in galleries and museums.

Another part of this project consisted in the collection of microbacterial flora from the Ecuadorian weavers that produce the ancestral toquilla straw. With the help of biotechnological manipulation, the microorganisms collected from the weavers’ hands were grown in Petri dishes in the lab and put into shapes of letters that formed an inscription which was later suspended within glass frames and exhibited. The inscription reads: “Aquí estoy siendo Mirada”, which can be translated into English as Here I am being gazed at. Bacteria were exhibited alive, that is, encapsulated in glass frames (Fig 3, 4 & 5).

Jeffs’ installation project conjoins the ancestral, traditional and local with the technological in the creative process. The cultural ancestral knowledge of the weavers that produce the toquilla, the family that makes the traditional años viejos and the bacteria from the weavers’ hands meet science in the installation. While it is true that these local
knowledges are taken away from their original context of production—which we might think is a case of "cultural appropriation" (Young, 2010)—we also notice that these knowledges become entangled in a complex interweaving of materials and procedures together with science, art and the environment. The installation extends the potential of such traditional knowledges from small communities in Ecuador and returns them to a central stage otherwise dominated by Western knowledges—such as the disciplines of science and art—thus opening new and multiple pathways of knowledge production.

The agency of the nonhuman world, that is the bacteria, emerges from a context of interdependency of the ancestral, the scientific and the artistic. León Velásquez (2012) interviewed Jeffs with regard to Ex+sistencia and pointed out that for Jeffs “microbiology [...] is the opportunity to speak from the essence of our surroundings. It is, through art, to burst into a world inhabited by tiny entities that from now on will represent us” (my translation). This view on what the combination of science and art achieves resonates with ideas on the co-dependency of humans and the environment, as Cary Wolfe (in Kirksey, 2014: 4) puts it “our mode of being is dependent on complex entanglements with animals, ecosystems and technology”. This alters the way human beings and humanity have been considered, that is, as separated from the environment. This is what Descola has named “the great divide” ([2005] 2013: 57) in Western philosophy and aesthetics, that is, the segregation of nature as an autonomous domain, a different field of enquiry open for experimentation and extraction. Jeffs' bioart stresses that humans are not removed from the domain of nature, rather human beings unfold with other sentient beings, as Tsing (2012) asserts, “human nature is an interspecies relationship” (4). Indeed, the mutual constitution of humans and the environment unfolds in and from our flesh.

The name of the installation, Ex+sistencia, has a twofold meaning. It means that something exists, it is a being, but at the same time, that it stops existing in its traditional form or identity. The penitents, the kneeling figures, seem to be meditating, communicating in silence surrounded by such striking scenery in the Antarctic, maybe contemplating the glacier landscape before global warming melts the ice and radically changes the scenery, as several studies show. In his website, Jeffs (2017) points out that these figures “highlight human isolation in these inhospitable places. They emphasize the feeling of smallness and helplessness that human beings can experience when confronted with an overwhelming and sublime natural environment”. However, in view of the increased pace of environmental deterioration—the Instituto Nacional Antártico Ecuatoriano (INAE), i.e. the expedition with which Jeffs travelled, had been investigating ice-melting and glacier recession— that feeling

NOTES

3 | The original text in Spanish: “La microbiología para Allan es la oportunidad de hablar desde la propia esencia de lo que nos rodea. Es irrumpir a través del arte en un mundo habitado por seres minúsculos que desde ahora, para él, nos representan” (León Velásquez, 2012).

4 | A recent study entitled “Freshening by glacial meltwater enhances melting of ice shelves and reduces formation of Antarctic Bottom Water” published in Science Advances analyses the correlation between global warming and ice melting not only from above but also from underneath the ice surface in The Antarctic: http://advances.sciencemag.org/content/4/4/eaap9467.full

5 | This information was taken from the press statements of the Instituto Antártico Ecuatoriano to Ecuador’s main newspaper, El Universal: https://www.eluniverso.com/guayaquil/2018/03/14/nota/6665548/mision-antartida-sigue-rastro-cambio-climatico
of helplessness and smallness can also be interpreted as a kind of existential distress due to a changing environment. This feeling of ecological grief resonates with what Albrecht et al. (2007) has named solastalgia, that is, an anxiety due to environmental change, a kind of homesickness due to natural processes or man-induced processes that cause environmental destruction. While the penitents embody a feeling of existential distress or ecological nostalgia, the photographs that come to us from the installation leave a message regarding our environmental predicament, maybe to be read in the silent communication of the kneeling entities.

The fact that Jeffs took the microorganisms from the hands of the weavers that made the cloaks for the penitents and grew them in the lab generates correspondences between things —cultural and physical space, ancestral and biotechnological, form and materiality, organic and inorganic—. The act of generating correspondences through bacteria becomes an act of incorporation where the microorganic world that co-produced the cloaks with the weavers is materialized in a new media creating new spaces or interfaces between humans and the non-human world. Jeffs (2017) poses the following question in his website: “We are a body conformed of all those things that you cannot see but can feel, that dwell on and with us. We inhabit a being, which has been given a name, ID number, picture and image. But, what happens to the beings which inhabit us?”. This statement raises a few intriguing questions as to what happens at the biocultural borderland in this cross-species encounters in relation to identity and the common space occupied by different entities. In addition, when the body becomes the site of archival research for multispecies encounters in an artwork, who is meant to be the spectator? To what extent can we say that the spectatorship considers a wider audience of humans and non-humans? The inscription that the bacteria forms in the artwork, “Aquí estoy siendo Mirada” (Here I am been gazed at “by you”), is addressing a human spectatorship that is watching the bacteria but it is also acknowledging microorganisms’ consciousness and awareness of the fact that they are being watched by us and our awareness that they are gazing back. It is here that an inflection point takes place in this cross-species encounter: when we realize that we are observed and thought about by our “companion species” (Haraway, 2003).

As a visual artist experimenting with microorganisms, Jeffs calls on the scientific or the lab procedures in combination with materials from traditional sources (toquilla, figures shaped like años viejos, the bacteria taken from the hands of traditional weavers). On the other hand, the second instance of bioart that I discuss in the following subsection is different in that the work of art is born as a scientific procedure that calls on the aesthetic to make visible the cohabitation between humans and bacteria.
2. *Retratos* by Luciana Paoletti

*Retratos* [Portraits] consists of photographs of microorganisms and bacteria taken from the skin of people. The microorganisms, that is bacteria and fungi, are cultivated on Petri dishes and put on a drawing made by Paoletti. These are invisible until the microorganisms begin to grow, making the image visible. This image is photographed before the microorganisms consume the nutrients on the dishes and die (Fig 6 & 7).

![Lucía y Marina](image1) ![Rodrigo](image2)

*Retratos*. Images taken from Paoletti’s blog

Another photographic series, *Paisajes. Espacios intransitables* [Landscapes. Inaccesible Spaces] also constitutes portraits but of natural places. These are ephemeral micro-landscapes made with microorganisms taken from different sites in nature, which are cultivated in in-vitro models (Fig 8, 9 & 10).

![Desierto](image3) ![Paisajes](image4)

*Paisajes*. Images taken from Paoletti’s blog

![Atardecer sobre la costa del Río Paraná](image5)

*Espacios intransitables*. Images taken from Paoletti’s blog
In her work, Paoletti plays with the visible-in-visible in biopaintings, using microorganisms as medium. In her *Retratos*, microorganisms replace the traditional portrait of the human body. Paoletti explains in her blog that she wants to capture the influence of a changing surrounding environment on the human figure and explains the process through which she obtains the portraits:

> In this project I immerse myself in the world of portraiture. I analyze the human body as a territory over which a large number of invisible organisms live, develop or simply are in transit. I capture part of these microorganisms following rigorous microbiology protocols. At the moment of making the portrait, the person that will be portrayed will be able to dress, comb their hair and pose as she or he wishes, but in their body, they will carry a load of microorganisms that nobody sees. In my portraits, I work with this invisible part. I take the sample, I grow it in suitable cultivation media and finally I take the photograph. As a result, I generate portraits / landscapes in which the body of the portrayed was the initial terrain (Paoletti, 2018, my translation).

The play with the visible-in-visible in Paoletti triggers an affective and a phenomenological response. In his posthumous work *Le Visible et l'Invisible*, Merleau Ponty ([1964] 1968) stresses that the body is the material condition that constitutes an affective opening to the other, which is in ourselves as a kind of *chiasmus*, “we become the others and we become world” (160). Paoletti’s portraits and landscapes make visible that which escapes human perception but which has been there all the time, just outside of our field of perception. The combined techniques of microbiology and the photographic medium make it possible to discover this archive of microorganisms that inhabit the human body. However, in this case, bioart also constitutes a practice of administration and intervention on the living since the bacteria and microorganisms are grown, serve the utilitarian purpose of producing an artistic image, and, once the nutrients are consumed, they are left to die. Bacteria in Paoletti’s portraits are used as pigment, color, creating a *living painting* since bacteria continues growing, the nutrients are being consumed and the bacteria start to die, replicating in that sense the life circle.

In her work, Paoletti also engages the history of portrait photography, as she states in her blog:

> The portrait fulfilled different functions throughout history. To this end, the representation of the human body went through stages with varied characteristics, symmetry, frontality, the search for perfection, even extreme and detailed similarity. From the late nineteenth century, artists began to experiment more freely with portraiture. Today, the human figure is a source of research and its representation is influenced by the changing universe that surrounds it” (Paoletti, 2018, my translation).

Latin America has a charged relationship with the medium of photography. Particularly, portrait photography is connected to the
history of the rise of the modern nation-state in the nineteenth century and the disciplines of anthropology, criminology and psychiatry, which sought to produce an objective record to classify all that did not conform to the homogenic ideal of the time, the other, “mostly for the purposes of European self-definition and to satisfy a hunger for the ‘exotic’” (Schwartz, 2006: 3). Placed in that context, Paoletti’s portraits, since they are produced in the lab following strict scientific procedures, engage that history of portrait photography used as means of classification and identification. Nevertheless, the call for the aesthetic here becomes a point of inflection since the final artwork, that is, the photograph, renders a figure of unspecificity, an unspecific identity (combination of random colors and forms from the bacteria). Moreover, the encounter of art and science interrupts the lab protocol with its rigid and objective procedures. In an interview for Radio Rosario, Paoletti reflects on this angle of her work:

“It’s like I am, or I play at being, the artist who designs the project, but I am also the scientist who carries it out. And the fact that I am a scientist gives me the possibility of altering the scientific protocols in search of an artistic result, which is not what a project does in bioart. I like seeing that I can play with this to alter the protocols and this is an advantage, being able to make art from science. I am working on projects where I already show not so much a final work, that is the drawing or the photo, but playing with this modified scientific-artistic task. I’m putting together projects where I highlight the protocol, how I do it" (Paoletti in Pairoba 2016, my translation).

This interruption of the lab protocol is what turns her work into a reflection on science and technology, and here following Andermann “it is only through the critical interruption of the lab’s routines, thanks to this invocation of the aesthetic that the bio-artistic moment of unspecificity becomes possible” (2018a: 278). In this respect in his recent book Tierras en trance. Arte y naturaleza después del paisaje, Andermann suggests that bioart and ecoart lead us to change our perception of the aesthetic as that which distinguishes us as human beings, that which specifies us and separates us from the environment (2018b: 452). The alien introduction of the aesthetic to the laboratory constitutes a cyborgian convergence of technology, living matter and art, bringing about the unknown, the unspecific, which blurs the boundaries between fixed identities, specified categories and the fixed protocols of science.

3. Encounters at the Biocultural Borderland

Both instances of bioart studied here can be considered types of what Mitchell (2010) calls “vitalist bioart”, which explores the possibilities of living materials: “Can E. coli be coaxed to make a painting — and if so, what will it look like?” (32). In this section I discuss how
the explorations of the possibilities of living materials in Jeffs’ and Paoletti’s cases bring to the fore nonhuman agencies, thus weaving a multispecies narrative that deconstructs master narratives about human nature and the human body.

The microorganisms that become visible in these instances of bioart are “fleshy material-semiotic presences” (Haraway, 2003: 5). They are intermeshed in our flesh as companion material entities, and therefore become part of our identity, of who we are. The environment is then in our flesh. We can no longer define our identity in terms inherited from the Enlightenment, which imagine a separation of humans from an external nature against which the human is constituted. Moreover, in the Portraits the microorganisms are taken from the hair, skin or breath of those posing for the picture, but then these minuscule entities are cultivated artificially in dishes and sometimes modified by biotechniques to make them grow. In these artworks, the image created, be it in the photographs or in Jeffs’ inscription artwork, is related to cultivation rather than imitation or reproduction. This insight means then that the becoming of the self depends on how life forms are cultivated, how they enter the web of life, and in what spaces —rather than on the repetition or duplication of a model. The new agencies and assemblages deconstruct the dominant imaginary of artistic creation based on Kantian mimesis that colonized the conception of aesthetic experience.

Paoletti’s portraits and Jeffs’ installation force us to think beyond the human and the human body as that which specifies or identifies us as humans, which resonates with Alaimo’s idea of thinking trans-corporeally, where the fabric of the body is the environment and vise versa:

Imagining human corporeality as trans-corporeality, in which the human is always intermeshed with the more-than-human world, underlines the extent to which the corporeal substance of the human is ultimately inseparable from “the environment.” It makes it difficult to pose nature as a mere background for the exploits of the human, since “nature” is always as close as one’s own skin. Indeed, thinking across bodies may catalyze the recognition that the “environment,” which is too often imagined as inert, empty space or as a “resource” for human use, is, in fact, a world of fleshy beings, with their own needs, claims, and actions. By emphasizing the movement across bodies, trans-corporeality reveals the interchanges and interconnections between human corporeality and the more-than-human (Alaimo et al., 2008: 238).

The photographs and portraits generated through biotechniques render a post-human body, “A contaminated body, a deadly body, a techno-body” (Halberstam et al., 1995: 3). Moreover, the active role that bacteria and microorganisms acquire in shaping the outcome of the artwork poses them as co-producers or co-authors making us notice the hybrid fabric of agency. If, as Kirksey (2014) declared
“Bacteria, viruses and fungi living on the surface of our bodies, and in our guts, are usually noticed only when they make us sick” (15), then Jeffs’ and Paoletti’s bioart show us that these fleshly beings should be noticed as carriers of meaning in the semiotic process that the installation and the photographs trigger. Haraway uses the term “sympoesis” —following biologist Lynn Margulis’ idea of *symbiosis* referring to “the intimacy of strangers” (Margulis in Haraway, 2016: 60)— to evoke a “making-with” (Haraway, 2016: 58), an unfolding together. The transdisciplinary border-crossing between art and science taking place in Jeffs’ and Paoletti’s bioart can be understood as sympoetic practices of “art science worldings” (Haraway, 2016: 67), where both science and art become mutually constitutive in world-making. This opens a new door to the studies of symbiotic biology beyond mainstream biology, which focuses on “symbiotic assemblages […] knots of diverse intra-active relatings in dynamic complex systems, than like the entities of a biology made up of preexisting bounded units (genes, cells, organs, etc.) in interactions that can only be conceived as competitive or cooperative” (Haraway, 2016: 60). In this sense, bioart not only challenges the terms of art but it also intends to shake the very basis of science.

These two instances of bioart tell a multispecies narrative that problematizes master narratives of both the human body and the human as dominant species, taking us on an exploration of biocultural borderlands. Bioart is then a parasitic practice, a “para-site” (Kirksey, 2014: 16), a space of excess, spaces that involve the unfolding of encounters. These hidden ecologies —networks of bioculture— unsettle established narratives about the body in Western discourse, considered as biological nature apart from rational faculties. Bioart emphasizes the lack of clear limits between what is natural and what is artificial, or in this case, cultivated. The body is envisioned as an active multispecies agent in creating meaning and that insight opens the possibilities that bodily master narratives have closed (Halberstam, 1995: 18). The immediacy of the human body with the environment also opens new modes of noticing, which as Tsing indicates, are “purposefully promiscuous” (2017: 7). These new ways of noticing elicit modes of storytelling that open a landscape of cross-species entanglements, taking us beyond the segregation of the humanities and the natural sciences, and or nature/culture. However, it should also be pointed out that bioart may also be crossed by a decolonial dilemma. While the examples of bioart discussed here question some aspects of capitalist colonial modernity such as human/non-human, art/nature dichotomies, they may perpetuate others such as control and management through Western science. However, I consider that the ambiguity generated by bioart is politically productive precisely because of its activation of an archive of sentient beings as precarious lives that have been controlled and managed through Western science and neoliberal reason. This activation brings to the...
fore transversal dialogues between humans and nonhumans alike who were subjected to symbolic and physical violence. In this sense, bioart, as Andermann & Giorgi (2017) suggest, functions as a vector to dis-organize and re-organize the tensions of what we have called “nature” (281) and the violence with which such organization was imposed on living forms. In this respect, bioart can escape cooptation by neoliberal reason if it remains “unspecific”, at a borderland, and thus unable to be classified and processed into fixed categories.

In Jeffs’ and Paoletti’s works, it is the bacteria and the microorganisms that tell the story in the photographs and the installation, a transcorporeal story of hybridity where human language becomes entangled with the specific times, places and conditions of our invisible companions. These symbiotic assemblages of species in Jeffs’ and Paoletti’s works tell a different story of the human body as a possible archive on which to experiment with new multispecies “coalitions” (Halberstam et al., 1995: 2) and “interspecies frames” (Tsing, in Kirksey, 2014: 2) to question dominant ideas on the human body, the self and human identity. Within the frame of the environmental humanities, bioart has the potential to become a pathway for “transfection” (Haraway, 2008: 15) between entities within a hybrid semiosis that goes beyond human language.
Works cited