From Monsters to Astroculture[1]. Reflections from the Plenary Session's chair (Part II)

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Abstract. This article takes a brief theoretical and reflective look at Rogério Ribeiro plenary session at the What If'23 Conference. The theme of the speaker's session about the potential of speculative biology and from that we began to explore the implications of it in the artistic field. Thus, this article assumes itself as a theoretical-reflective incursion, built from the artistic works of Patricia Piccinini and Suzanne Anker, through which we intend to develop themes such as the Anthropocene, the grotesque and post-humanism.

Keywords: speculative biology, monsters, Anthropocene, grotesque, dystopia.

1. Introduction

Rogério's communication[2] about speculative biology aroused my interest in multiple senses. Firstly, because the lecturer mentioned a set of literary works that we considered to be deeply instigating of the sociological imagination. However, for the elaboration of this theoretical-reflective article we decided to focus on a specific example that was presented by the lecturer, namely the presence of speculative biology in artistic practices and contemporary art. Thus, we propose an incident analysis in one of the artistic works of Patricia Piccinini, but also in one of the works of Suzanne Anker.

By having an approach to the artistic work of Piccinini and Anker, it is our intention to develop concepts such as dystopia, grotesque, Anthropocene[3], etc. We understand Rogério's presentation took on a broader character, however, we considered it important to specify in this article a field of action and research, more specifically at the level of sociology of art and culture.

Starting with the artists, Patricia Piccinini is an Australian contemporary artist, widely recognized for her hyper-realistic sculptures that explore themes such as biotechnology, genetics, relationships between humans and other species, and the boundaries between the natural and the artificial. Piccinini's work is marked by a speculative and critical approach to technological and scientific advances, such as genetic engineering and biotechnology. In this sense, her art proposes

[1] Reference to the work of Suzanne Anker.
[2] Full communication available at https://www.youtube.com/watch?v=kfyCN6do4eA (11:21)
[3] The Anthropocene is a proposed geological epoch that describes the current period in Earth's history, characterized by significant human impact on the planet's geology, ecosystems, and climate. While not yet officially recognized as a formal epoch by the International Commission on Stratigraphy, the term has gained widespread use in scientific, environmental, and cultural discussions

deep reflections on the impact of these technologies on society and biology. She creates creatures that defy traditional notions of life, evoking empathy and discomfort. Piccinini gained international prominence in the early 2000s, especially after his participation in the Venice Biennale in 2003. Her exhibitions have been held in renowned institutions, such as the Georges Pompidou Center, in Paris, and the Mori Art Museum, in Tokyo. Moreover, her art is seen as a commentary on the ethics of genetic manipulation and the boundaries of what it means to be "human," themes that resonate deeply in a world of rapid advances in biotechnology. The work we chose for analysis – based on Rogério's lecture – is entitled "Young Family" (2002-2003), and is a sculpture of hybrid creatures, half pig, half human, which suggests the ethical dilemmas of biotechnology and cloning.

Suzanne Anker is an American visual artist, theorist, and professor, widely recognized for her work at the intersection of art and science, especially in the fields of biotechnology, genetics, bioart, and new media. Anker explores how modern science and biotechnology impact contemporary culture and aesthetics. She combines science and art to create works that challenge and reconfigure the way we understand the natural world, the human body, and life in general. Suzanne Anker's work addresses topics such as genetics, simulation, virtual realities and climate change. She utilizes a wide variety of mediums, including sculpture, video, photography, and installation. Her work is characterized by the investigation of the boundaries between nature and science, bringing a critical perspective on biotechnological advances, such as cloning and genetic modification. A central example in her work are her series that use microscopy and biological cultures to create visual patterns and sculptures that resemble living organisms. One of her notable works is "Zoosemiotics", where she combines microphotographs of living organisms and plants with digital images, questioning the concept of "natural" and "artificial". Anker is also interested in the Anthropocene, the geological era defined by human impact on the planet and examines the ecological consequences of this period. For the purposes of this article, we will analyze the work “Astroculture (Shelf Life)”.

Thus, the article consists of three more sections in addition to this introductory one. In the following section, supported by the artistic work of Patricia Piccinini – presented by Rogério in his lecture – we intend to develop the concept of dystopia in relation to the grotesque, to portray another face of speculative biology. In the third section, focused on the work of Suzanne Anker, we aimed to explore the theme of the Anthropocene and, finally, we have a fourth section dedicated to the enunciation of some conclusive and reflective clues.

2. The case of a Young, Dystopian and Grotesque Family

We begin this section by mentioning the theoretical contributions of Biscay [1], who presents us with an article where the limits between humanity, biotechnology and post-humanism are explored through the sculptures and installations of the artist Patricia Piccinini. From an in-depth analysis, the author [1] examines how Piccinini's work articulates questions about speculative biology, dystopia, and the grotesque, while introducing reflections on the ethics of biotechnology, the aesthetics of disgust, and empathy for the "other"; themes that we intend to highlight right away.

One of the central concepts of the text is the idea of dystopia, which is characterized by the fusion of fear and fascination around the biotechnological future [2]. In Piccinini's works, we find hybrid creatures, generated by biotechnology (see Figure 1), that evoke both empathy and repulsion. These posthuman beings are visual representations of contemporary anxieties around genetic manipulations and control over life. Her creatures do not fit into a simplistic vision of a catastrophic future, as is common in dystopian narratives [3], but rather offer a more complex vision that, in turn, is neither totally negative nor positive.

Figure 1: Records of the installation "Young Family" (2002-2003) by Patricia Piccinini[4]
Source: https://www.patriciapiccinini.net/writing/51

The complexity of the works presented in figures 1 and 2 is emphasized by the emotional duality that her works provoke. Although initially strange and even disturbing, Piccinini's creatures end up eliciting a form of compassion, suggesting that the post-human future may also be an

[4] Patricia Piccinini's "The Young Family" (2002-2003) is a deeply evocative installation that addresses themes of biotechnology, ethics, and our emotional connection to the non-human. The work features a mother creature nursing her offspring. This creature is a hybrid, blending human and animal traits in a hyper-realistic style that simultaneously fascinates and unsettles the viewer.

opportunity to reconfigure the ethical relations between the human and the non-human [1]. Thus, the essay [1] suggests that Piccinini's work challenges dystopian clichés and opens space for critical reflection on the transformative potential of biotechnology [4,5].

At the same time, the lecturer, during his presentation and by showing Piccinini's artistic work, established a bridge with the concept of speculative biology: the motto of his presentation; this is because this artistic work of Piccinini in particular, represents biological possibilities that go beyond the limits of contemporary science. The artist creates beings that seem to have emerged from radical genetic experiences, but which, paradoxically, also have familiar characteristics [1]. This tension between the acknowledgment and the uncanny reinforces speculation about what is possible in the future of biotechnology, a topic that has been widely debated in the literature and that, today, can be transposed to the technological advances of Computer-Generated Imagery (CGI), for example. In fact, these Piccinini "monsters" are beings that challenge the boundaries between the natural and the artificial [6]. The author [1] points to the fact that the artist's works function as visual metaphors for the debate on the ethical limits of genetic engineering, given that these creatures, instead of being merely terrifying, are (or can be) in many cases, dependent, vulnerable beings that require care, which inverts the traditional concept of monstrosity. Speculative biology [7, p. 147] is presented here not only as a field of horror, but as a territory of new possibilities of coexistence.

In this regard, the works of Borbely and Petrar [7] are also relevant because, supported by the contributions of Andy Clark[5] – a British philosopher – they explore the idea that human beings have always been natural cyborgs. This work makes a provocative analysis of the interaction between technology and human nature, arguing that the boundaries between man and machine are less rigid than we usually imagine: a premise that can be applied to Piccinini's artistic production, but also to Anker's as we will see.

Moreover, Guo [8] states that Piccinini's art often evokes dystopian landscapes, not in the traditional sense of an apocalyptic future, but rather of a version of the world profoundly transformed by biotechnology. In fact, although the work dates from the early 2000s, these principles are even more valid, especially if we think about the advances in Artificial Intelligence platforms, which make human experience increasingly robotized. Such issues have been approached from a sociological point of view [9, 10, 11].

Piccinini's creatures, often a mixture of human and animal organisms, emerge from a universe that can be seen as a scientific dystopia, where the limits of bioethics are questioned [12]. Works such as "The Young Family" (2002-2003) feature a human-pig hybrid mother caring for her young, questioning the viewer about the morality of genetic engineering and its consequences. However, the dystopia in Piccinini is complex, from our perspective. It is not just a dark and frightening future, but a field of ambiguous possibilities, where biotechnological innovation can solve problems or create ethical dilemmas. By presenting these possible realities, the artist forces us to face the disconnect between scientific advances and our emotional and ethical responses to them.

In addition to these conceptions, the concept of grotesque is a dimension that guides Piccinini's artistic work and that often marks speculative biology, especially from a point of view of literary imagination. Piccinini's figures are, in a way, repulsive: they have textures, shapes and anatomical combinations that seem bizarre to us [1], as can be seen in figures 1 and 2. However, unlike other grotesque depictions, they are not mere objects of disgust. The grotesque here is seen as an aesthetic that challenges the viewer to confront their own prejudices about the body and life. The presence of a maternal figure caring for a creature that does not fit into any of the traditional patterns of humanity, highlights vulnerability in a world that may have lost its connection with nature (ecofeminism or speculative feminism). This tension between care and estrangement reveals a critique of the alienation and dehumanization that can emerge in a future dominated by technology. The visual aesthetics of the work also contribute to the dystopian atmosphere. The configuration of the figures and their

[5] See Clark, Andy. *Natural-Born Cyborgs: Minds, Technologies, and the Future of Human Intelligence*. Oxford University Press, 2003

expressions may suggest an absence of hope or a bleak future, where family and social relationships are challenged by the strangeness of what has been created.

At the same time, the article [1] underlines that the grotesque in Piccinini's works operates on a delicate threshold between repulsion and attraction, as we have previously mentioned. Rather than distancing the viewer, Piccinini's grotesque creatures often generate an empathetic emotional response. This paradox — something so grotesque can elicit compassion — is one of the keys to understanding the strength of her works. The grotesque, therefore, is not only used to shock, but as a tool to expand the notions of life and care, opening up new forms of perception about the "other".

In an interview [13], Piccinini discusses the ways in which she uses the grotesque to subvert the aesthetic and emotional expectations of the public. Traditionally, the grotesque is associated with a visceral revulsion and deformity, evoking discomfort and fear. However, Piccinini explores another facet of the grotesque, which goes beyond the simple negative reaction. She states that:

> First of all, it needs to be pointed out that when something is new and unknown, we as humans are neurologically programmed to feel repulsion, because it is not something we recognize and it is scary. So, we think this is grotesque and repulsive. But actually, when you look at nature, there are a lot of oddities. For example, a seal: it looks like a dog, however, it is actually very strange and it is only because we know this creature that we do not feel repulsed by it. In reality, they are quite unusual and crazy, as they walk strangely, smell bad, make strange noises... They are frightening and strange, but we know them and do not find them repulsive. Therefore, part of the repulsion is not knowing.
> Another point in this matter is that I don't actually make works that are intentionally repulsive. My goal is not to do something so grotesque and obnoxious that it causes people to withdraw. I don't try to do that. In fact, I often end up hitting back when people say "Oh, that's so ugly!", "Oh, that's so scary!". I am always incredulous, because I did that and I would not do something purposely unpleasant. I've always found what I do to be quite attractive. [13, p.3, Our translation]

Here, the artist suggests that the grotesque in her works is not only used to provoke shock or distancing, but to invite the viewer to look closer, to overcome the initial reaction of repulsion and to find an unexpected humanity in her creatures. This use of the grotesque to challenge perceptions is rooted in the idea that by questioning the boundaries of the human body and aesthetic norms, we can also reconfigure our understanding of compassion and acceptance. One of the most intriguing aspects of Piccinini's work, as discussed in the interview [13], is the transformation of the grotesque into something sensible. Their hybrid creatures—fusions of humans and animals, or genetically modified beings—often push the boundaries of what we consider "natural" or "acceptable." However, instead of being representations of a dystopian future, as is common in speculative science, these creatures become objects of care and affection.

For De Blois [14] the grotesque is understood as a tool of subversion and social criticism, analyzing how the three artists mentioned use hybrid figures to challenge cultural and anthropocentric norms. It explores the notions of grotesque, hybridity and body, establishing a dialogue with contemporary theories of art and philosophy. The concept of grotesque, as described in the text [14, p.45], is not limited to mere deformity or aesthetic strangeness, but reveals itself as a powerful critical tool. In her sculptures, Patricia Piccinini breaks down the traditional boundaries between species. As Mikhail Bakhtin [15] suggests in his theory of the grotesque, this art form aims not only to shock, but to reimagine the body as a matter in perpetual mutation [14, p.47], highlighting the vulnerability and permeability of the human condition.

3. Astroculture, Astrocene or Anthropoculture?

Rogers et *al.* [16] invite critical reflection on the impact of biological technologies on the future of humanity and nature. Curated with a multidisciplinary approach, the exhibition explores how biotechnology shapes our understanding of the body, life, and the environment. One of the featured works, "Astroculture (Shelf Life)" by Suzanne Anker, proposes a fusion between art, science and ecology, opening a space to think about the limits and potentialities of biotechnology in the creation of new ecosystems. By integrating art into this debate, works such as Suzanne Anker's are used to question the boundaries between the natural and the artificial, between the biological and the cultural. As exposed, art can make visible the invisible processes of scientific innovation [16], serving as a critical lens that exposes the ethical and aesthetic dilemmas of biotechnology. This critical aspect is key to understanding Anker's work, which uses growing plants under controlled conditions to underline the intersection of technology and life**.**

Suzanne Anker, with her installation "Astroculture (Shelf Life)", creates an environment where plants grow under LED lights in small transparent plastic containers. Inspired by NASA experiments investigating the feasibility of growing plants in extraterrestrial environments, Anker suggests a future where plant life needs to be domesticated and controlled to survive outside of planet Earth (see Figure 2). Rogers *et al.* [16] note that Anker's work explores the tension between nature's inherent chaos and the human desire for order and control over the environment. By artificially recreating the conditions for growth, Anker not only problematizes the relationship between technology and life, but also raises questions about the sustainability of life in the Anthropocene, an era marked by humanity's devastating influence on the environment**.**

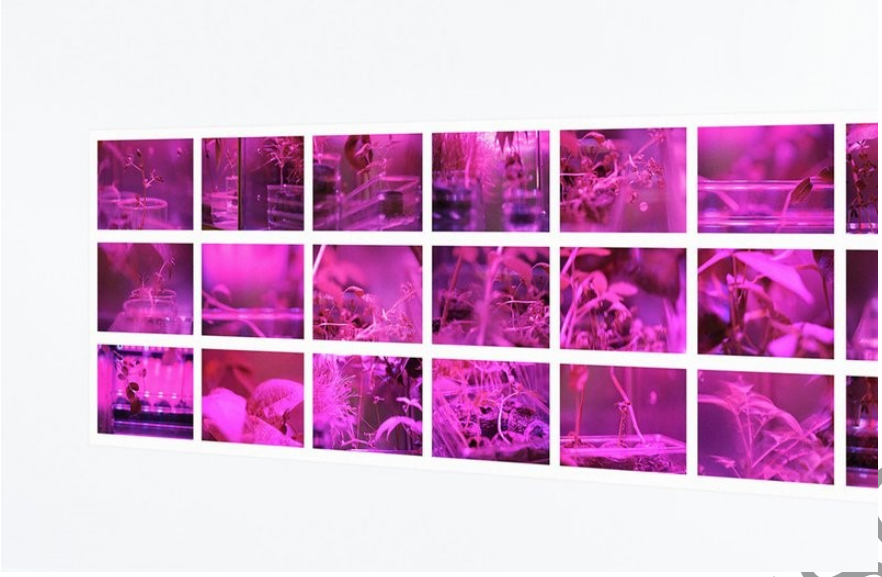

Figure 2: Astroculture (Shelf Life) — Suzanne Anker[6]. Source: https://www.suzanneanker.com/artwork/astroculture-shelf-life

The use of artificial light to sustain plant life also invites us to think of a synthetic or post-natural form of life, where what we understand by "nature" is entirely mediated by technology. As Donna Haraway - one of the leading voices in the post-humanist debate - puts it, we were never really natural [17, p. 12]. Anker's plants are not just living organisms, but rather entities that inhabit a border zone between the natural and the synthetic, subverting the idea that organic life is purely autonomous or natural. The installation suggests a reality where biotechnology not only manipulates but creates ecosystems, and raises questions about the extent to which these artificial ecosystems can be considered "natural"".

In consonance, Anker's installation also raises a reflection on the ethics of biotechnology, particularly in relation to genetic manipulation. By simulating an extraterrestrial environment in which plants grow artificially, "Astroculture" makes us think about the future of food, agriculture and human survival in a scenario of environmental collapse. Genetically modified plants, which can thrive in inhospitable conditions, are both a promising solution and a symptom of ecological depletion caused by human action.

Suzanne Anker's work also aligns with the growing field of bioart [18], which explores the intersections between biology, art, and technology. In the installation "Astroculture" – and in the figures presented above – technology not only sustains life but redefines the very idea of what it means to be alive. This idea is in line with post-humanist thought, which rejects fixed notions of identity, nature, and the body, favoring a more fluid and interconnected view of life. Anker offers a vision where the plant body is no longer something separate from technology, but deeply intertwined with it. In this sense, her work echoes the ideas of theorists such as Rosi Braidotti [19], who suggests that the post-human embodies a vision of life that is material and symbiotic, but that also co-evolves in partnership with the technological environment. Technology, in "Astroculture," is not just a tool for

[6] "Astroculture (Shelf Life)" consists of small, enclosed hydroponic systems illuminated by vibrant, colored LED lights. Within these futuristic, laboratory-like environments, plants are grown without soil, showcasing a method of agriculture that relies on controlled, artificial conditions. The bright, almost alien-like colors of the light evoke a sense of otherworldliness, linking the work to speculative futures, such as growing food in outer space or in extreme Earth environments.

sustaining life, but an integral part of what that life becomes. The installation, therefore, broadens the notion of the body by incorporating the technological mechanisms that sustain its existence, forcing us to rethink the relationships between life, technology, and nature.

In fact, Anker [18] argues that the origins of bioart are linked to the evolution of the biological sciences and to the growing capacity of humans to manipulate, modify and even create forms of life. This raises the central question about the limits of life as an artistic medium. The author [18] argues that bioart begins when artists are able to intervene in biological processes [20, 21, 22]. In this sense, Suzanne Anker, by growing plants in an artificial environment controlled with LED lights in Astroculture (Shelf Life), inserts herself directly into this field. It uses biotechnology not only to sustain life, but to reimagine the conditions in which that life can exist.

The text [18] suggests that the advent of bioart marks a radical change in the way we understand the role of art in contemporary society. Therefore, the direct manipulation of the biological redefines, as postulated by Anker in the installation under analysis, the notion of artistic creation, shifting the emphasis from representation to the production and control of living entities. In Astroculture, Anker isn't just creating a representation of plants; it is effectively shaping the conditions for its existence. The act of growing plants in an artificial environment evokes a new approach to nature, where it is no longer wild or autonomous, but something subject to technological control and regulation [22], portraying another stage of the dystopian process.

One of the central themes of bioart [23] is the exploration of artificial life and the consequences of manipulating living organisms. In Anker's case, the Astroculture (Shelf Life) facility can be seen as a controlled artificial life form, where nature has been modified to survive in hostile, technologically mediated environments. Anker's plants grow in clear plastic containers, under LED lights that simulate the conditions needed for photosynthesis. This artificial scenario suggests a future where natural ecosystems have been depleted, and plant life can only survive under strictly controlled conditions. Here, Anker proposes a critical view of the Anthropocene, an era in which human actions drastically impact the environment. The idea of sustaining life beyond Earth, as explored in Astroculture, echoes the possibility that Earth itself may no longer be able to sustain its biodiversity. This scenario raises questions about ecological sustainability and the ethics of biotechnology.

Again, Anker [22] enunciates the concept of hypernatural to refer to a vision of nature that has been profoundly transformed by human actions, but which nevertheless presents itself as a "natural" entity, despite its artificiality. In the context of the Anthropocene, this notion of artificialized nature is essential, as human activity, such as pollution, deforestation, and genetic manipulation, has drastically altered ecosystems, generating new forms of life and landscapes. The author [22] argues that, rather than just lamenting the loss of "pure" or "wild" nature, we need to recognize that the nature we have now and, in the future, will always be mediated by technological interventions. In other words, we are facing a new configuration of nature that cannot be dissociated from human influence.

Associating the concept of the hypernatural with the Anthropocene and contemporary art, especially the specific case of bioart, we can mention that artists such as Anker – and Piccinini – exploring the concept of hypernatural nature are not only recording environmental devastation, but also imagining new forms of life that emerge from this scenario of destruction. This point is crucial, as it suggests that art in the Anthropocene need not be purely critical or pessimistic but can also be a way to explore possible futures and creative solutions to environmental challenges. The aesthetics of hypernatural nature often involves the use of technologies to recreate or modify ecosystems, plants, and animals. This is directly related to the concept of "art in the Anthropocene", where artistic practice reflects on environmental changes and how these changes redefine our perception of the natural world. Art, in this context, not only represents nature as something in extinction, but as something in constant transformation, highlighting the need to rethink what we consider natural. Thus, in Anker's conception [22] the hypernatural aesthetic forces us to confront the new forms of beauty and life that emerge in a world that is mediated by human impact. This new aesthetic challenges traditional notions of harmony and balance in nature, presenting scenarios of continuous transformation and biotechnological adaptation.

4. A few remarks

Speculative biology, as an artistic and scientific field, as Rogério demonstrated to us in his lecture, investigates possible futures for living organisms in a technologically mediated and environmentally degraded world. In the context of the Anthropocene, this speculative field becomes a crucial tool for examining how biotechnology can reshape not only human life, but also that of other beings. In this scenario, speculative biology imagines new beings and ecosystems that adapt or evolve according to technological intervention. The grotesque, on the other hand, refers to the distortion or exaggeration of forms, it is a central element in the work of Patricia Piccinini. The grotesque in practice manifests itself in the juxtaposition of human and non-human characteristics, which simultaneously evoke familiarity and repulsion. This aesthetic of ambiguity and discomfort is especially relevant in the context of the Anthropocene and speculative biology, as it reflects the way in which biotechnological intervention can produce organisms that challenge traditional categories of nature and culture.

What we want to gauge is that speculative biology not only imagines possible futures, but also questions the viability of a dystopian future in which life depends entirely on biotechnology to survive. Post-humanism, understood as the overcoming of traditional humanism that places the human being at the center of life and thought, becomes an important lens for understanding the works of Piccinini and Anker. Both artists force us to confront futures where the distinctions between human, animal, and machine dissolve, and where biotechnology is the main tool to ensure the continuity of life in the Anthropocene. Piccinini's creatures are not merely the result of dystopian biotechnology but suggest a new ethic of coexistence and interdependence in the future. However, the discomfort these figures provoke also suggests the dystopia of a world in which humans have lost control over their creations, evoking a bleak vision of the future. Suzanne Anker also approaches post-humanism, but from an ecological perspective. Astroculture imagines a future in which plant life itself depends on technology to survive, suggesting that the relationship between humans and nature is completely mediated by artificial systems. Anker's work reflects on the possibilities of post-human adaptation, where plants and organisms need to evolve in tandem with technologies developed by humanity. This dystopian setting evokes an aesthetic of forced survival amid environmental collapse.

We considered that, in the context of sociology, ideas about biotechnology and post-humanism can be analyzed through the lens of social relations and power structures that shape the interaction between humans, machines, and living beings. Thus, the work of artists such as Piccinini and Anker can be seen as a sociological critique of narratives that prioritize human domination over nature, proposing an alternative vision of coexistence and interdependence.

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