

Bodies, Biopolitical Critique, and Female Agency in Contemporary Bio(medical) Artworks

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Izvleček

Tesla, biopolitična kritika in ženska agentnost v sodobnih bio(medicinskih) umetniških delih

1.01 Pregledni znanstveni članek

V članku je predstavljen družbeni in kritični potencial bio(medicinskih) umetniških praks s poudarkom na načinih, kako umetnice uporabljajo telesa in žive celice kot sredstvo biopolitične kritike. Z uporabo teoretičnega okvira ekofeminizma in posthumanega feminizma avtorica pristopa k izbranim bio(medicinskim) umetniškim delom sodobnih umetnic, ki vsebujejo žive človeške celice ali v katerih se povezujejo z drugimi vrstami. V članku je prikazano, kako so ta dela kritična do številnih družbenozgodovinskih in biopolitičnih tem, kot so diskriminacija, povezana s krvjo in krvnimi rodovi, uničevanje avtohtonih skupnosti, ekocid, biobanke, rasna in spolno pogojena superiornost ter avtoriteta človeka nad nečloveškimi in nadčloveškimi bitji. Takšne umetniške prakse so zelo pomembne za študije spolov in študije umetniških raziskav v biokulturah in tehnoscienci, njihova interdisciplinarna narava pa spreminja reprezentacijo in razumevanje teles v umetnosti in vsakdanji kulturi.

Ključne besede: bioumetnost, človeške celice, medicinska umetnost, telo, sodobne umetnice, celice HeLa, posthumani feminizem, študije spolov

Abstract

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1.01 Review scientific article

The paper investigates the societal and critical potential of bio(medical) artistic practices by focusing on the ways in which female artists use bodies and living cells as means of biopolitical critique. Using an ecofeminist and posthuman feminist theoretical framework, the author discusses selected bio(medical) works by female contemporary artists that contain living human cells or in which they connect with other species. The paper shows how these works are critical towards many socio-historical and biopolitical issues, such as discrimination associated with blood and blood lineages, the killing of indigenous communities, ecocide, biobanks, racial and gender-based superiority and dominance, human authority over other-than human and more-than-human beings. Such artistic practices are of great relevance for gender studies and studies of artistic research in bioculture and technoscience, where their interdisciplinary nature changes the representation and understanding of bodies in the arts and everyday culture.

Keywords: bioart, human cells, medical art, body, female contemporary artists, HeLa cells, posthuman feminism, gender studies

Introduction

The representation of the human body in the arts has changed over the centuries with the development of medicine. As a result, modern techniques of biopsying or producing and growing human cells *in-vitro* have had a great impact on art. By means of such techniques, living human cells can become part of works of art, opening a new chapter in the representation of the human body in art. Such artistic practices that include living human cells are perhaps the most challenging among all contemporary artistic practices, usually demanding interdisciplinary and intersectoral methods and collaborations. Artists who collect human cells from medical waste, use already grown immortalized cell lines or harvest cells, nurture them, reproduce them, grow them, manipulate, freeze or stop their growth within artworks, need to meet strict technological, ethical and legal regulations, which, in the case of human tissues, are far more complex than when working with other living cells. Artists of such works often need specific laboratory conditions, equipment and the help of other specialists, all of which requires cooperation with cultural, medical and other institutions. Many procedures with human cells require equipment that is not widely available for sale nor can it be used outside of designated institutions (faculties, hospitals, research centres). Some artworks require the designing and engineering of new equipment that doesn't yet exist, or the skills of surgeons and medical staff who have never undertaken a procedure required by an artist.

The complex process behind the production of artworks that contain living human cells is usually followed by a complex process of displaying, transporting and preserving them. Each of these stages requires a process that may vary from country to country. For example, in the UK, to display artwork that contains a living tissue, an institution must hold a Human Tissue Licence issued by the Human Tissue Authority. It also needs to fulfil the appropriate conditions to display them – a regular or improvised incubator that will keep them at 37°C, nutrients, antibiotics, sterile conditions to change used nutrients. Such works are very hard to transport and take months-long preparation of permits and finding transportation companies that will take them. For some of them, it “takes weeks to prepare the packages to meet international shipping standards for biological samples, and they can only be shipped from lab to lab as research items”.¹ Such restrictions sometimes mean that such artworks can only be displayed through interdisciplinary collaboration.

Despite these challenges, more and more contemporary female artists are including living human cells in their practices, such as HeLa cells, skin cells, fat cells, ovum, vaginal epithelial cells, blood cells, muscle cells or even microorganisms living on our skin, which are usually not recognized as part of our bodies. Starting from an initial hypothesis that such artistic practices represent more than mere creativity at the cross-section of art, medicine, and biological sciences, the present paper is the product of research which investigated the following two main research questions: first, how are artworks that contain living human cells and that have been (co)created by female contemporary artists critical towards biopolitics and society? Second, are female bio(medical) artists sharing similar aims and worldviews theoreticians and practitioners of ecofeminism and posthuman feminism? Depicting – for the purposes of research alone – several artworks that present key tendencies in bio(medical) artistic practices, the paper explores their meaning primarily within the theoretical framework of ecofeminism

¹ Hauser, “Some Survive,” 81.

and posthuman feminism.² They are contextualized within the relatively brief history to date of female artists' incorporating the human body in artistic practice from the 1960s, since contemporary artistic practices elicit critical responses and engagement by building on strong movements in art history.

Art-historical framework: The critical capacity of the body in arts and bioart

Female artists have had a major impact on the presentation and interpretation of bodies in visual culture and everyday life. They have approached bodies from the perspectives of gender studies, disability studies and socially engaged art. When we look at the history of art, the period of the late 1960s set "the stage for relevant themes of self-exhibition, identity and the role of the body in art and society".³ Since then, bodies in art had been closely associated with the topics of social emancipation, social status and the societal roles of individuals and collectives. In the 1970s, "[p]erformance art became a way that women could engage in a discussion of their bodies on their own terms";⁴ for feminist artists in the 1970s, the body became "a contested site, a problematic locus for work".⁵ Artists like Judy Clark used menstrual blood and semen in the early 1970s not only to address sexual freedom but also to "undermine the post-war ideal of the perfect housewife".⁶

Such artistic approaches to bodies and activist engagement through artistic practices were among the first expressions of a critique of different issues affecting wider society. In body art and performance, the number of bodies could even indicate the framing concept of singular artistic works and actions – "[t]he singular body points to the issue of gender, the couple raises the question of intimacy, and the collective body investigates the social dimension of life".⁷ Bodies emerge together to make political demands through *bodily visual activism*, "a performative enactment of assembly on the grounds of equality and insistence on interdependency".⁸ As such, the meaning of bodies is formed in a relational way – to each other, to the environment, to the socio-political context as well as to the moment of creation of the work of and engagement with it.

Even though artistic practices that contain the smallest units of bodies (cells, enzymes or DNA) are, in terms of media and aesthetics, very different to performances and body art, they are not any less critical and engaging. They often touch upon issues of identity, since in bio(medical) art, the human body intersects with those of other species, or its fragments live beyond the life of the whole. Bio(technological) art "does not depict or narrate the manipulation of biological life but actually *performs* the manipulation of life"; it does not (re)present reality, "but *produces* it. It *does* something",⁹ showing us that biotechnology facilitates engaging not only with living matter but also artistic practices. Artists who use genomic *in-vitro* culturing and sequencing "present us with a

² Unfortunately, there is no space here to present the complex behind-the-scene efforts involved in the production, exhibiting, transporting and preservation of the works selected for analysis, which required an interdisciplinary effort on the part of scientific collaborators, curators and multiple institutions.

³ Millett-Gallant, *The Disabled Body*, 6.

⁴ Newman, *Female Body Image*, 4.

⁵ Battista, *Renegotiating the Body*, 30.

⁶ Battista, *Renegotiating the Body*, 65.

⁷ Best, *It's Not Personal*, 10.

⁸ Sliwinska, *Feminist Visual Activism*, 7.

⁹ González Valerio and Tratnik, *Through the Scope*, 56–57.

new form of (self)portraiture, and at the same time delineate and question the scientific techniques and assumptions of proper knowledge (about a person) in a deconstructive way”.¹⁰ Such artistic practices show that individual identity is not only recognizable from the visible form of a body but also from its absence, from traces of DNA. Besides that, the artistic practices of artists who use their own extracted cells to construct new forms show that bodies can extend beyond themselves, live, be modified and die outside themselves.

Artistic works and practices that include living cells are also critical towards the relation of biotechnology to individuals and society. Bioart speaks “about the influence that biotechnology already has in shaping our lives, and how they are all sustained by the logic of commodification, ownership and rights over who owns a body”.¹¹ Miriam van Rijnsingen notes that artists working in the field of (bio)medical sciences tend to be social critics: “Issues of gender, race, behaviour, artificial reproduction, mutation and genetic diversity are high on the agenda, while on the other hand scientists (who share these issues) are eager to embrace a rather classical idea of beauty, this is beauty as it is found in nature.”¹²

Artistic practices that involve human cells are perhaps the most complex branch of bioart practices, questioning not only how we relate to the world but also how we relate to ourselves. Previous research on bioart has shown that bioart raises questions about social and cultural paradigms,¹³ questions such as where to put a hazardous bioengineering lab, what are the ethical and social boundaries of genetic research, how to know when experimenting on animals goes too far – all of which are part of a broader question – how to be an ethical biological citizen today.¹⁴ Bioartists are addressing in their works the unforeseeable consequences of genetic technologies that have led to “public uncertainty about implications for personal privacy and human rights, eugenics, food and drug safety, replacement of natural systems with bioengineered counterparts, involvement of multinational corporations with genetic propriety, worldwide agricultural monopolies, and prospects for the weaponization of biotechnological accessories for the military and law enforcement”.¹⁵

Bioart shows that “the question of how and why we are generating, sustaining, situating, systematizing, and regenerating living matter is not only, and has never been only a biological, chemical, or engineering question of technique or technology but has always instigated visual and spatial, philosophical and political platforms of dialogue”.¹⁶ Bioartists, through their practice, are “posing questions of how biotechnology alters our relations to the world,”¹⁷ they point to the biopolitical discourses of identity, otherness and life itself. They are enabling members of the public to fully understand the realities of biotechnology and also to understand that there is a parallel world in laboratories where life is sustained in special conditions. For that reason, contemporary artists who include human cells in their works have a distinctive societal role. They question who owns bodies and who has authority over them, but, more than that, they question what it means to be “human,” which is why the female agency is particularly important.

¹⁰ Rijnsingen, “Framing Interiority,” 188.

¹¹ Wołodźko, *Affect as Contamination*, 19.

¹² Rijnsingen, “Insights and dividing lines,” 113.

¹³ Yetisen et al., “Bioart,” 724.

¹⁴ Dumit, “Foreword: Biological Feedback,” xi.

¹⁵ Yetisen et al., “Bioart,” 724.

¹⁶ Johung, *Vital Forms*, 2.

¹⁷ Byerley and Chong, “Biotech Aesthetics,” 199.

Analysis of artworks and discussion: Bio(medical) artistic practices as decentring of Anthropos

As philosopher and feminist theorist Rosi Braidotti has noted, the idea of “the human” has become identified with male, white, heterosexual, Eurocentric, Christian, property-owning, able-bodied, urbanized, standard-language-speaking citizens.¹⁸ For this reason, she introduced the concept of *zoe*, which “marks the outside of this vision of the subject”.¹⁹ She even distinguishes it from *bios*, which she recognizes as a discursive and political discourse about life. The concept of *zoe*, however, includes all those dispossessed and impoverished who have never been included in the dominant concept of “the human” – women, LGBTQ+ people, people of colour, indigenous peoples as well as all non-human forms of life. What is more, for Braidotti, human bodies are “*zoe/geo/technobodies*,” since they are also grounded in an endangered planet (*geo*) and fully immersed in technological mediation (*techno*).²⁰

Bioart practices approach the human body precisely through the critique of the centuries-long concept of “the human”. Dr Leora Farber-Blackbeard, a South African artist and professor at the Faculty of Art, Design and Architecture (University of Johannesburg) and co-founder of the Creative Microbiology Research Colab (CMRC), sees bioart practices as close to theoretical paradigms that are “decentring the white, heterosexual male human subject, and of Eurocentric notions of speciesism, thus calling into question the hierarchical binary oppositions – such as ‘human’ and ‘non-human,’ ‘self’ and ‘other,’ mind and matter, subjectivity and objectivity – upon which Western discourse is based”.²¹ Bioart practices are, therefore, also contributing to a decolonial perspective on “the human”.

Furthermore, bioart practices express criticism not only of the current technologizing and commercialization of bodies – including technological mediation, gene-editing and stem-cell engineering – but also more broadly of the exploitation of labour, climate change and the extinction of species and loss of biodiversity.²² Bioartists criticize the non-transparent and non-consensual collection of DNA, and the unforeseeable further implications it can have on the development of societies (e.g. Dr Heather Dewey-Hagborg) and the fact that children are being born into a posthuman and technobiological society. For example, for the work *Heirloom* (2014) Gina Czarnecki created copies of her daughters’ faces by culturing skin tissue sampled from them in order to criticize biobanks that store 3D structures of faces and youthful skin cells. Bioartists also critically approach the almost industrial production of modified and reproductive female cells, as well as the meanings embedded in human tissue such as blood, or discrimination based on infective diseases such as HIV. Such works are found in the practices of Oron Catts and Dr Ionat Zurr (*The Tissue Culture and Art Project*), Dr Alicia King, Kathy High and Chrissy Conant.

Growing human cells in laboratories is a common practice in medicine and pharmaceuticals for the purpose of testing medicaments and treatments. When taken from an organism and kept in appropriate conditions, somatic cells can divide between forty and sixty times before breaking down and dying. However, certain cells that have undergone specific mutations can keep up dividing forever. In 1951, the first such cells were discovered, and they have been grown in laboratory settings ever since, becoming the first immortalized human cell line. Initially epithelial cells from a cervix

¹⁸ Braidotti, *Posthuman Feminism*, 16; Braidotti, “The Politics of Life,” 178.

¹⁹ Braidotti, “The Politics of Life,” 178.

²⁰ Braidotti, *Posthuman Feminism*, 18.

²¹ Farber, “The Scientific Lab as Studio,” 184.

²² Braidotti, *Posthuman Feminism*, 65.

affected by adenocarcinoma were harvested from Afro-American patient Henrietta Lacks without her or her family's knowledge while she was being treated in Johns Hopkins Hospital in Baltimore. Even though she did not survive the cancer, the cell line that derived from her cells was named HeLa after her and her contribution to medicine was posthumously acknowledged. HeLa cells have been used over time in the development of various vaccines, including against polio and most recently COVID-19, as well as for developing treatments for cancer, HIV, AIDS and many other diseases.²³ They have been also used in artistic practices.

In the work (*for art is like a living organism*)... *Better Dead Than Dying* (2014) (fig. 1), Oron Catts and Dr Ionat Zurr (*The Tissue Culture and Art Project*) grew HeLa cells to form a silhouette of Henrietta Lack's shadow from one of her photographs. Drawing to public attention the invisibility of all patients who unknowingly contributed to the development of medicine and are left in the shadows, the authors show with this work that "the story of the HeLa cell line reflects the biopolitics of race, class and gender that are embedded in the biomedical and health system, which are heightened especially when matters of profit are factored in".²⁴ They exhibited the cells in a custom-made bioreactor that initially sustained their life, but in an indeterminate point turned into a "death chamber" where the cells died from the accumulated waste.

The artists describe this work as one of their *semi-living* entities created through tissue engineering and stem cell technologies and grown in artificial conditions, "located at the fuzzy border between the living/nonliving, grown/constructed, born/manufactured, and object/subject".²⁵ They state that "[p]arts of Henrietta Lacks (the cells which eventually led to her premature death) are still growing and filling laboratories around the world. The HeLa cells' biomass (or biomass?) exceeds by far that of Lacks' own body while she was alive."²⁶ They also ask themselves, how much of these cells are part of Lacks, if at all. The recent account shows that over 55 million tons of HeLa cells have been used in scientific studies around the world. The works like (*for art is like a living organism*)... *Better Dead Than Dying* show that connections between identities and bodies have been long broken.

Another artwork in which HeLa cells have been used is *Go Forth and Multiply* (2007–2008) by Dr Alicia King, developed in collaboration with her friend Eden St James (fig. 2). As Eden is HIV positive, the work aimed to make the virus visible and touchable. After failing to get permission to culture Eden's cells, the work was made using a specific type of HeLa cell line HeLa-CD4+ that had been designed specifically for HIV-related research. The cell line expresses a particular enzyme beta-galactose, which reacts when stained with the substrate X-Gal (5-Bromo-4-cholor-3-indolyl-beta-D-galactopyranoside), causing the cells to turn blue when they are infected with the HIV virus.²⁷ In *Go Forth and Multiply*, the cells were cultured to form shapes of army figurines and then

²³ Other commonly used immortalized human cell lines in medicine and pharmaceuticals include HEK-293 (generated from human embryonic kidney cells isolated from a female fetus in 1973 and transfected with adenovirus 5 DNA), SH-SY5Y (a human neuroblastoma, cloned from a bone marrow biopsy taken from a four-year-old female with neuroblastoma), A549 (adenocarcinomic human epithelial cells, grown in 1972 from removed cancerous lung tissue of a 58-year-old Caucasian male), Jurkat cell line (established in the mid-1970s from the peripheral blood of a 14-year-old boy with T cell leukemia), Huh7 (carcinoma cell line, originally taken from a liver tumor in a 57-year-old Japanese male in 1982).

²⁴ Zurr and Catts, *Tissues, Cultures, Art*, 105.

²⁵ Catts and Zurr, "Semi-Living Art," 232.

²⁶ Zurr and Catts, *Tissues, Cultures, Art*, 107.

²⁷ Alicia King, email correspondence, May 26, 2025.



1. Oron Catts, Ionat Zurr and Robert Foster: *(for art is like a living organism)... Better Dead Than Dying*, 2014
(Courtesy of the Artist)



2. Alicia King: *Go Forth and Multiply* (detail), 2007–2008, developed in collaboration with Eden St James
(Courtesy of the Artist)

infected with HIV. Initially assuming the infection would spread evenly, King found out that it had spread in a camouflage pattern, appearing like uniform on the soldier figurines, soon infiltrating all the cells and turning them blue.

At the time the artwork was created, Australian immigration policies denied permanent residency to many HIV-positive applicants as the HIV-related healthcare costs often exceeded the set threshold. Alicia King and Eden St James wanted to use this artwork to comment on this viewpoint that “portrayed the HIV positive body as a tool of biological weaponry, and HIV positive people as potential biological terrorists, who should be geographically confined”.²⁸ By connecting male figurines of soldiers and cells of female origin which have been used for the development of HIV treatments, the work also criticizes the fabricated need to produce more and better soldiers, even in laboratories, instead of investing in a better health system, equality, education and a decent standard of living that would prevent the spread of deadly infections around the world.

The topic of prejudice based on immunology is also found in the Kathy High’s project *Blood Wars* (since 2011) in which white blood cells are the central protagonists (fig. 3). *Blood Wars* is a tournament between different donors’ white blood cells that are competing against each other in a petri dish. The cell that wins a tournament is photographed under a microscope and placed in a fight with another cell participant. The artist is organizing the tournaments around the world, documenting the results on a website with a designed “Blood Wars” logo, trophies, and documented stories.²⁹ Apart from being fun and entertaining, the project is very ethical in terms that all participants sign the Informed Consent Forms and Participants Questionnaires and receive Participant Information Leaflet. More than that, the project is critical towards ideas of racial superiority, sociopolitical identity based on “blue blood” and discrimination associated with blood and blood lineages.

Female contemporary artists also use their own reproductive cells to criticize the idea of superior blood lineages and the technologization of bodies. In 2001, Chrissy Conant launched the project *Chrissy Caviar*® (fig. 4). It consists of 12 glass jars shaped like those used as packaging for the Beluga caviar. Instead of an image of a fish, each of them features an image of the artist in an evening gown. In addition, each jar contains a harvested mature egg from the artist. All eggs were produced in a single cycle with superovulation induced by a month of injectable hormone treatments taken by the artist. Each egg was packed under sterile conditions by a contracted embryologist into a transport tube with human fallopian tube fluid, then sealed in the jar.

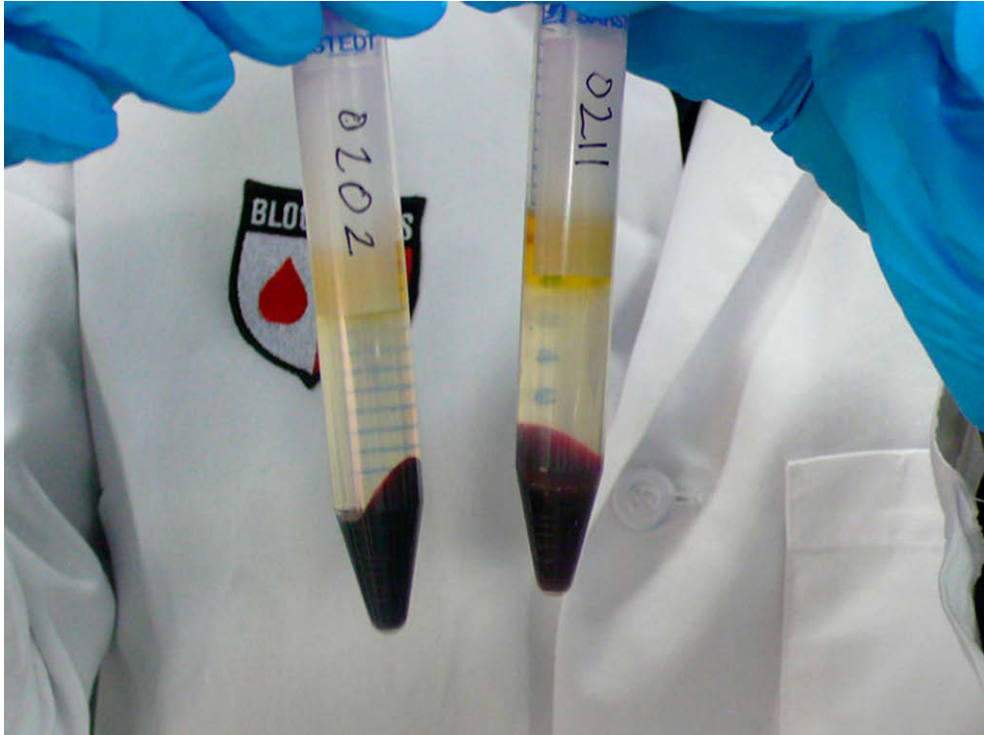
The project also includes a documentary-style video *Making Chrissy Caviar*®; the original website was modelled on egg-donor advertising sites so that it includes her genetic history, reproductive history, family medical history, ancestry as well as other relevant information and a limited edition of *Chrissy Caviar*® Floaty Pen, showing an egg floating back and forth between an ovary and a jar, and a limited-edition poster of the label. As the artist explains, she created art using her body, using her genes as commodity.³⁰ She also used her work to reflect on the cultural position of unmarried women in their 30s whose biological clock is dictating that they should start seriously working on starting a family.

Using humour and irony, Conant critically addresses in her work the idea that women and female bodies are just managed environments for the growth of future embryos. The cultural and

²⁸ Alicia King, email correspondence, May 26, 2025.

²⁹ For all the tournaments, see *Blood Wars*.

³⁰ Conant, *Chrissy Caviar*® (2001).



3. Kathy High: *Blood Wars* (Separation of red and white blood cells from human blood sample. *SymbioticA*), 2010–2011 (Courtesy of the Artist)



4. Chrissy Conant: *Chrissy Caviar®* (detail), 2001–2002, Digital Duraflex print, face-mounted on aluminium (edition of 9), 30”h x 40”w (Courtesy of the Artist, © 2001)

social perception of female reproductive power as an obligation is also addressed in works by other female bioartists, such as in Julia Reodica's *hymNext Project* (2004–2008), a biological sculpture of a hymen that contains artist's own vaginal cells, but which can be transplanted into men since their virginity has been treated differently throughout history. Artist Dr WhiteFeather Christie Hunter, who uses in her artistic practice hormones and pheromones, vaginal microbiome data, serum, cells as well as body tissue, points out that "cultural taboos impact scientific research about women's bodies by qualifying false narratives and disqualifying unexpected truths, including regard for individual lived experiences as important (and immediate) knowledge sources".³¹ For that reason, she is developing her artistic practices as a means of demonstrating knowledge and authority over one's own body and creating the "conditions of empowerment for those who work to substantiate lived experiences of the female reproductive body".³²

In all these works, the bio(medical) practices of female artists are critical towards the historical and social fact that many have been perceived and treated as less-than-human: women, people infected with HIV, subordinated populations, to name just a few. Due to such perceptions, they have been exposed to discrimination and exploitation.

Bio(medical) artistic practices and/as ecofeminist connection to other species

Ecofeminist theories argue that the same mechanisms are at the root of the exploitation of people and other species. Discrimination against women, colonial genocides, the sexual politics of the meat industry, unethical food production, ecocide and bio-colonization (introduction of invasive species) that in turn contributes to climate crisis all result from the patriarchy, capitalism, racism, colonialism, anthropocentrism and technoscience, which are "intertwined phenomena exerting their power through institutionalized practices and power relations".³³ For this reason, ecofeminist and posthuman feminist theories highlight the importance of trans-species interdependence and their mutual interconnectedness that goes beyond human/non-human distinction. While "ecofeminism emphasizes the ecological idea that 'we' are all in *this* together, although we differ",³⁴ posthuman feminists "activate modes of collaborative interconnectedness, mutual interdependence, care and infinite compassion that may enhance our collective ability to pull through this".³⁵

Bioart practices are close to ecofeminist idea of the mutual interdependency of species as a means of ending the exploitation of human and non-human otherness. There is also an increasing number of artists who work with bacteria living on human skin or in human digestive and respiratory systems. These comprise around half of the cells in our bodies, yet they are not considered *human*, as they do not share our DNA. However, according to artists Anna Dumitriu and Alex May, "[t]he microbiome, the bacteria that live on us and in us, are an important part of what it means to be human".³⁶ Similarly, artist and designer Sonja Bäumel sees the microbiome as integral part of

³¹ Hunter, "The Witch in the Lab Coat," 25.

³² Hunter, "The Witch in the Lab Coat," 12.

³³ Braidotti, *Posthuman Feminism*, 75.

³⁴ Braidotti, *Posthuman Feminism*, 83.

³⁵ Braidotti, *Posthuman Feminism*, 245.

³⁶ Dumitriu and May, *Super-organism*.

our bodies and ourselves: they give new perspectives on our person. “All of us are so much more than we think we are. If we merge the genetic material of all our co-habitants, it will comprise ten times more information than our own DNA.”³⁷ Her *Expanded Self* living sculptures from 2014 and 2015 were huge petri dishes (210 cm x 80 cm), filled with agar (the nutritive substance for bacteria) into which she imprinted her own body so that the bacteria from her skin can grow independently in it and become visible. Mellissa Monsoon also exhibited living sculptures in agar, shaping them as bodies from which the microbiome was sourced. In 2015, she exhibited *Lady Mycrobioime*, agar sculptures in the shape of her intimate body parts, in which the bacteria found on her genitals and breasts were grown.

Such works underline Professor Donna Haraway’s notion that “[t]o be one is always to *become with many*.”³⁸ Similarly, for the feminist theorist and physicist Dr Karen Barad, bodies are “constituted along with the world, or rather, as ‘part’ of the world (i.e., ‘being-of-the-world,’ not ‘being-in-the-world’),”³⁹ while life “is not an inherent property of separate individual entities but rather an entangled agential performance of the world.”⁴⁰ The mutual interconnectedness of human bodies to their environment and the bodies of other species is, therefore, an integral, if not a key part of being a human. Bioart works that invert the hierarchical supremacy of humans to animals and are close to these ecofeminist aims are found in the artistic practices of Maja Smrekar, Art Orienté Objet (Dr Marion Laval-Jeantet and Benoît Mangin), and Dr Theresa Schubert.

Referring to dogs as an “emotional crutch, my machine for loving,”⁴¹ Maja Smrekar in her *K-9 topology* series works with dogs, which she also sees as means of “biopolitical resistance.”⁴² The series includes four works developed over several years: *Ecce Canis* (2014), *I Hunt Nature and Culture Hunts Me* (2014), *Hybrid Family* (2015/2016), and *ARTE_mis* (2016/2017). In *Ecce canis*, Smrekar isolated serotonin from her own and her dog Byron’s blood samples and used a liquid chromatography separation machine (otherwise used in analytical chemistry) to further disperse it as a smell over recycled wolf fur, in order to thematize the parallel evolution between wolves, humans, and dogs. In *I Hunt Nature and Culture Hunts Me*, Smrekar performed with Czechoslovakian Wolfdogs, referencing works by Joseph Beuys and Oleg Kulik as well as theories of interspecies communication by Donna Haraway and Giorgio Agamben.

For the *Hybrid Family* (fig. 5), Smrekar underwent physiological training lasting two and a half months, after which she could lactate. She adopted a puppy Ada and breastfed her for as long as it needed it before completely switching to solid foods. She refers to the project as the process of *becoming (m)Other* and “becoming-animal by rethinking the social and ideological instrumentalization of a woman’s body and breastfeeding.”⁴³ The act of performing publicly with her own body and that of her puppy Ada was a means to “re-gain our position of power.”⁴⁴ Another work of Smrekar’s about becoming other-than-human is *ARTE_mis* (2016/2017). For that work she used her own ovum.

³⁷ Baeumel, *Expanded Self*, 2012.

³⁸ Haraway, *When Species Meet*, 4.

³⁹ Barad, *Meeting the Universe Halfway*, 160.

⁴⁰ Barad, “Living in a Posthumanist,” 174.

⁴¹ Smrekar, *I Hunt Nature* (2014).

⁴² González Valerio and Tratnik, *Through the Scope*, x.

⁴³ Smrekar, *Hybrid Family* (2016).

⁴⁴ Smrekar, *Hybrid Family* (2016).

5. Maja Smrekar and
Manuel Vason: K-9_
topology: Hybrid Family
(detail), Berlin (Courtesy
of the Artist)



6. Art Orienté Objet
(Marion Laval-Jeantet
and Benoît Mangin):
May the Horse Live in
Me!, 2011, Kapelica
Gallery Archives
(Courtesy of the Artist)



DNA from it was decomposed by UVA light and then fused *in-vitro* with her dog's somatic cells. The cells were left to divide just before the formation of the blastocyst (an early stage of an embryo). At that stage, it was frozen and preserved at -198 degrees Celsius, remaining as an open possibility or threat, depending on how the concept of becoming other-than-human is received in a society. These works by Smrekar challenge anthropocentrism by subverting the hierarchical differentiation of human and animal species. "By objectifying herself for the dog, she resists the biopower bestowed upon her as a representative of the human species over the animal species, which sees domestic animals as proprietorial objects of humans."⁴⁵

Dogs are what Prof. Donna Haraway calls *companion species* to humans – they are workers, technologies, family members, patients in "very large industries and exchange systems in lively capital: pet foods, products, and services; agribusiness; and scientific biomedicine".⁴⁶ However, as Haraway points out, "*companion species* designates webbed bio-social-technical apparatuses of humans, animals, artifacts, and institutions in which particular ways of being emerge and are sustained. Or not."⁴⁷ It represents a mechanism of selection and elimination of individual animals and whole species based on many factors, including economic ones. Horses can be seen in similar way, as they have been workers and symbols of social status for humans for several millennia.

As a means of closely understanding an animal and extending its life by becoming its surrogate, as part of the performance artwork *May the Horse Live in Me!* (2011; fig. 6) Dr Marion Laval-Jeantet (Art Orienté Objet) injected horse plasma into her blood over the period of ten days. The gradual injection was needed to gradually build-up tolerance and avoid anaphylactic shock, since the injection of animal blood can be fatal for a human body. For the same reason, horse blood was deprived of large cells (erythrocytes, leukocytes, macrophages), leaving the plasma with hormones, lipids, and proteins. During the injection period, the artist was spending time with the horse whose blood was used, and getting closer to it, with help of an animal behaviourist. Afterwards, she put on stilts in shape of horse's legs and communicated with the horse. The artist's hybridized blood was afterwards extracted and frozen for preservation. Despite being carried out as the meeting with the other body, the work, according to Agnieszka Anna Wołodźko "appeared to express the impenetrability of the body and the pursuit of expanding the body's porosity,"⁴⁸ since it was so dangerous that it required the presence of paramedics during the injection period. However, this also made it an act of fully submitting to other species' body and accepting the consequences it may have, which is something humans rarely do. As such, *May the Horse Live in Me!* may be seen as specific apology after centuries of exercising full power over other species without thinking about the consequences.

Dr Theresa Schubert went a step further in destabilizing the hierarchy between humans and others in her work *mEat Me* (2020; fig. 7). The artist cultured her own biopsied muscle cells in serum extracted from her blood and grew them in a laboratory into a meal-sized piece, later demonstrating its actual cooking and eating.⁴⁹ While questioning the inviolability of the human body and criticizing

⁴⁵ González Valerio and Tratnik, *Through the Scope*, 125–26.

⁴⁶ Haraway, *When Species Meet*, 62.

⁴⁷ Haraway, *When Species Meet*, 134.

⁴⁸ Wołodźko, *Affect as Contamination*, 32.

⁴⁹ By using serum from her own blood, Schubert adopted an ethical approach to growing a cell culture. The pharmaceutical industry uses fetal calf serum and other animal-derived substances to grow cell cultures, which is why in the early 2000s the *Tissue Culture and Art Project* created artworks ironically entitled *Victimless Leather* and *Disembodied Cuisine* to show that, even when grown in laboratories, leather and meat are not victimless.



7. Theresa Schubert: *mEat me*, 2020, Kapelica Gallery Archives (Courtesy of the Artist; photo: Hana Josić)

the capitalist meat production, Schubert also problematized cannibalism that was historically “used by the white western men to justify the killing of indigenous communities and conquer ‘new’ territories”.⁵⁰ She argues that many tribes were allegedly cannibalistic and thus degraded to animal status, having no rights, while even the “mediaeval Pope wrote a decree that permitted the killing of cannibals conveniently annulling a capital sin”.⁵¹ Her work criticizes the concept of otherness in both humans and other species from an ecofeminist perspective, underlining the fact that the extermination of both humans and animals is rooted in the same problem of perceiving them as less-than-human.

Conclusion

Female contemporary artists who create bio(medical) artworks highlight ecofeminist and posthuman feminist ideas using new interdisciplinary approaches to the human body. They often deconstruct bodies to their smallest units for the purpose of forming new relations to other bodies, entities and the environment. Their works show that bodies can expand beyond themselves through their microbiome or through cultures that are grown in laboratories. They can compete on a cellular level against each other in tournaments – also while being outside themselves, as in *Blood Wars* by Kathy High. Their modified cells can be replicated ad infinitum outside themselves as those of Henrietta Lacks in numerous laboratories, as shown by the works of Dr Alicia King and *The Tissue Culture and Art Project*.

⁵⁰ Schubert, *mEat Me* (2020).

⁵¹ Schubert, *mEat Me* (2020).

In artistic practices bodies can be changed by hormonal treatment in various ways: to induce superovulation (Chrissy Conant), to induce lactation (Maja Smrekar), to interact with other species while being used as vessels (Dr Marion Laval-Jeantet). In all such artistic processes, not only bodies are changed, but so are humans' relations to themselves, to other beings, to the environment, to medical history as well as to the here and now. For all these reasons, bio(medical) artworks by female contemporary artists are an invaluable contribution to the history of art. The bodies embedded within them are new specific forms of (self)portraiture and a way for women to engage in a discussion of their bodies on their own terms. As problematic loci for work, the bodies are intimately associated with the issues of social emancipation, social status, the societal roles of individuals and communities, issues of intimacy, gender, race, supremacy, discrimination, behaviour, equality and interdependency. Through bio(medical) artworks, female artists challenge anthropocentrism, critically approach the influence of biotechnology on our lives and societies, address the issues of the commodification, ownership and appropriation of human and animal bodies, all of which are central to being an informed and self-aware citizen.

All the briefly analysed bio(medical) works by female contemporary artists represent specific means of empowerment. Some of them are giving empowerment to long deceased women whose myriad cells are being used in laboratories around the world, some are empowering people by revealing the mechanisms of capitalism based on biocapital and biovalue, some are subverting the hierarchy between humans and animals, but all of them emphasize that having control and ownership over one's own body is the power that people still have to fight for. The works analysed highlight the drastic consequences the lack of such power had in the past: mass killings on the grounds of alleged cannibalism, colonialism and centuries-long discrimination against people without favourable "blue blood" and certain racial predispositions, ecocide, treating women merely as a vessel for embryo production – all based on ascribing otherness to all those who do not fit into the anthropocentric definition of "the human". Closely associated with ecofeminist and posthuman feminist views, contemporary female artists through their bio(medical) practices show that our bodies do not exist separately from their environment and other living beings.

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Telesa, biopolitična kritika in ženska agentnost v sodobnih bio(medicinskih) umetniških delih

Povzetek

V bio(medicinskih) umetniških delih so telesa obravnavana in upodobljena precej drugače kot kadarkoli prej v zgodovini umetnosti in v drugih vejah sodobne umetnosti. V njih so telesa pogosto dekonstruirana na najmanjše enote (celice, gene in encime) ali pa so njihove definicije, dimenzije in zmogljivosti spremenjene z namenom ustvarjanja novih odnosov do drugih teles, entitet in okolja. Bio(medicinske) umetniške prakse prepoznavajo telesa kot kompleksne lokacije za delo, kar velja zlasti za sodobne umetnice, ki se odločijo za delo na tem področju. Da bi avtorica pokazala neprecenljiv prispevek sodobnih umetnic k bio(medicinskim) umetniškim praksam, je analizirala semantiko izbranih umetniških del, ki vsebujejo žive človeške celice, zlasti celice HeLa ter celice kože, krvi, mišic in jajčec. V članku predstavlja izbrana umetniška dela v teoretičnem okviru ekofeminizma in posthumanega feminizma ter pokaže, da ta umetniška dela presegajo zgolj ustvarjalnost na presečišču umetnosti, medicine in bioloških znanosti. So način, na katerega se ženske vključujejo v razpravo o svojih telesih pod svojimi lastnimi pogoji, in način, na katerega kritično obravnavajo številne družbenozgodovinske in biopolitične teme, vključno z družbenopolitično identiteto, ki temelji na »modri krvi«, diskriminacijo, povezano s krvjo in krvnimi linijami, in iztrebljanjem avtohtonih skupnosti, obravnavajo pa tudi vprašanja intimnosti, spola, enakosti, soodvisnosti in avtoritete človeka nad nečloveškimi in nadčloveškimi bitji. Poleg tega so taka umetniška dela nova specifična oblika (avto)portretiranja. Ker so telesa tesno povezana s temami socialne emancipacije in družbenih vlog posameznikov in kolektivov, umetnice prek bio(medicinskih) umetniških del izpodbijajo antropocentrizem, kritično pristopajo k vplivu biotehnologije na naše življenje in družbo ter obravnavajo teme komodifikacije in lastništva nad svojino telesa in pravic do nje. Avtorica ugotavlja, da predstavljajo bio(medicinska) dela

sodobnih umetnic specifično sredstvo opolnomočenja. Nekatera krepijo moč že davno preminulih žensk, katerih številne celice se uporabljajo v laboratorijih po vsem svetu, druga krepijo moč ljudi z razkrivanjem mehanizmov biobank, vendar pa vsa poudarjajo, da nadzor in lastništvo nad lastnim telesom predstavljata moč, za katero se je še vedno treba boriti.