Posthumanism and Aesthetics

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Abstract

As long as art remains a *human* practice, based on *human* thought, perception and agency, it remains an activity and institution that depends on the idea of *human* presence. This presence can be articulated in the form of a direct presence of human subjects, or, indirectly, through the representation of the effects of humans and their cultures, technologies on their environments, or their 'world' in general. Even though this presence of the human in art has long been taken for granted this does not mean that the nonhuman has been absent. On the contrary, nonhuman animals are among the first objects of art and representation. They may even have been what prompted the 'birth of art' in 'prehistoric' humans in the first place. Landscapes and still life remain major art forms, while sculpture and architecture have always played a fundamental role in connecting human and nonhuman spheres. All of these are obvious starting points for a critical posthumanist rewriting of aesthetics.

The target of such a posthumanist critique of (humanist) aesthetics is directed at its underlying anthropocentrism. In this context, the late 20th and early 21st centuries are characterized by what Richard Grusin has called the 'nonhuman turn'. Thinkers like Donna Haraway, N. Katherine Hayles, Karen Barad and many more have changed the general focus of attention towards postanthropocentric political and aesthetic practices, in which humans and nonhumans co-exist, co-experience and co-produce in distributed cognitive environments, assemblages and networks of humans, animals, machines, software, environments …

Posthumanism, as an emergent theoretical paradigm that embraces both the technological and ecological challenges of our time, thus attacks the humanist and anthropocentric preconceptions of art. It comes in two forms: it is an aesthetic practice that continues and radicalizes the critique of humanism; and it privileges work that takes the idea of postanthropocentrism and nonhuman art seriously, even 'literally'. This essay discusses some examples of both techniques or strategies and shows their complementarity. While the ongoing critique of humanism is ultimately still directed at and produced for a *human* subject, even though a radically changed and de-essentialized one, nonhuman art does no longer require a human as either its producer or observer – it is an art *without* humans.

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> Humanity is the species betrayed by art, in both senses of that word: the species at once revealed and undone through the agency of art. (Cottom 2006: 150)

Introduction

Throughout the history of art and aesthetics there has been a tacit assumption that art is fundamentally and more or less exclusively a human practice, based on human thought, perception, agency and symbolic transformation, or at the very least involving human presence in the form of an implied (human) spectator and admirer. Even spectacles of 'divine beauty' or 'the natural sublime' cannot really do or would not really make sense if there was no human subject to witness them (cf. correlationism below). Since art has almost exclusively been looked at as a cultural technology, social practice or institution that depends on the idea of human presence it can be said to be fundamentally 'humanist', in the sense of being human-centred, or anthropocentric. Human presence can be articulated in the form of a direct depiction of human subjects, or, indirectly, through the representation of the effects of humans and their cultures, spaces, technologies on their environments, or their 'world' in general.

This does not mean that the nonhuman has been absent from art. On the contrary, nonhuman animals are among the first objects of art and representation. They may even have been what 'prompted' the 'birth of art' in prehistoric times in the first place. Landscapes and still life also are and remain major art genres. Sculpture and architecture as well play a fundamental role in connecting human and nonhuman spheres. And the 'material' aspects of art practice, from the 'raw materials' used and transformed to the material interconnectedness and embodied nature of artistic practices also necessarily involve a myriad forms of 'entanglement' between human and nonhuman 'actors'. All of these are obvious connection points for a critical posthumanist rewriting of a human-centred idea of aesthetics.

What has become a growing concern for modern and contemporary art and the thinking about art's past and future, is not only their anthropocentrism, but at the same time, its ingrained Eurocentrism and its Greco-Roman and Renaissance humanist tradition, as well as its global commodification and its problematic relationship to 'late capitalism'. The critique of humanism that gathers pace in the second half of the 20th century is thus connected to the historical process of decolonization. It reacts against the universalism and cultural imperialism that European aesthetics has been colluding with at the expense of 'indigenous' cultures and art practices by appropriating and commodifying them. While such a 'postcolonial' critique still leaves the possibility of a *neo*humanist view of a universal aesthetic in the form of an equal valorization of *all* human

aesthetic practice intact, the second target of a more recent, posthumanist, critique is more radical in that it is directed at the underlying anthropocentrism of art practice more generally. In this context, the late 20th and early 21st centuries are characterized by what Richard Grusin has called the 'nonhuman turn' (Grusin 2015). Thinkers like Donna Haraway, N. Katherine Hayles, Karen Barad, Cary Wolfe and many more have changed their focus of attention on postanthropocentric political and aesthetic practices, in which humans and nonhumans co-exist, co-experience and co-produce in distributed cognitive environments, assemblages and networks of humans, animals, machines, software, or environments.

This notion of entangled materialities – natural, cultural, technological – leads to art practices that are increasingly aware and critical of art's anthropocentric bias and which stress or foreground and address the political and ecological issues that new forms of living-together outside a clear distinction between nature, culture and technology raise. In doing so, the traditional idea of the autonomy of art and the special experience, affects or subjectivities it affords, together with the institutions these are embedded in, which they support and which in turn legitimize them, all become problematized in posthumanist art or art engaging with and produced under posthuman conditions. Posthumanism, as an emergent theoretical paradigm that embraces both the technological and ecological challenges of its time, thus attacks both the humanist and anthropocentric preconceptions of art. It comes in two forms: it is an aesthetic

practice that continues and radicalizes the critique of humanism; and it privileges work that takes the idea of postanthropocentrism and nonhuman art seriously, sometimes even literally. This chapter discusses examples of both (posthumanist-postanthropocentric) techniques or strategies and shows their differences but also their complementarity. While the ongoing critique of humanism is ultimately still directed at and produced for a human subject, even though a radically changed and de-centred one, nonhuman art does no longer require a human as either its producer or observer – ultimately, it is art 'without' humans.

Posthumanist Aesthetics

The *Oxford English Dictionary (OED)* features two entries on 'post-humanism'. The first noun is defined as a "system of thought formulated in reaction to the basic tenets of humanism" and (esp. in postmodernist and feminist discourse): "writing or thought characterized by rejection of the notion of the rational, autonomous individual, instead conceiving of the nature of the self as fragmentary and socially and historically conditioned". This definition is a reflection of what happened in and to critical and cultural theory (with its waves of feminism, postmodernism, poststructuralism, deconstruction, postcolonialism, and psychoanalysis) over the past fifty years, namely a 'decentring' of the (human) subject, or a critique of the idea of the so-called 'liberal humanist individual' and its purported universality, timelessness, freedom and autonomy. In this

context, posthumanism is seen as the continuation and radicalization of this critique. In short, this is posthumanism understood as the 'ongoing deconstruction of humanism'.

The second entry for 'post-humanism' in the *OED* is defined as the "idea that humanity can be transformed, transcended, or eliminated either by technological advances or evolutionary process" – a definition that is marked as originating in 'science fiction'. It also includes "artistic, scientific, or philosophical practice which reflects this belief". By implication this definition understands posthumanism as an aesthetic term that is concerned with the 'post-human', a separate entry in the *OED*, designating (again marked 'science fiction') "[o]f or relating to a hypothetical species that might evolve from human beings, as by means of genetic or bionic augmentation". The posthuman thus understood is 'our' technological evolutionary successor. Relating to art it implies, more generally, a scenario "in which humanity or human concerns are regarded as peripheral or absent", on that is "abstract, impersonal, mechanistic, dispassionate". This second (aesthetic) focus of the definition clearly reconnects with the heated discussion about the 'dehumanization' and the 'end of art' occupying large parts of the 20th century (see below).

Another key aspect that can be gleaned from both definitions is the central role technology plays in the process of 'posthumanization', i.e. of humans becoming somehow 'posthuman'. As a general rule, one might add that those who embrace this process with enthusiasm, tend to trust the idea of technological progress and see the increasing

‘cyborgization’ of humans and their coevolution with, and maybe supersession by, artificial intelligence as a positive and necessary ‘next step’. They are usually referred to as ‘transhumanists’ who welcome human ‘enhancement’ through present and future technologies. For *trans*humanists, humans are merely a ‘transitional’ species preparing the way for technological superintelligence; their imaginary is fundamentally ‘science f*a*ctional’, in the sense that the boundary between science fiction and science fact, as Donna Haraway already wrote in the 1980s, is largely illusional (Haraway 1991; on ‘science faction’ see Herbrechter 2013). *Post*humanists, or as I would prefer to call them ‘critical posthumanists’, are aware of the implications of the technological transformations afforded by the combination of biotechnology and digitalization, but are much more focused on material and political changes that these technologies impose on life (both human and nonhuman) more generally. They are commenting critically on ‘biopolitics’ and ‘biopower’ (which also explains the important role bioart plays in posthumanist aesthetics, see below), by which they understand, following Michel Foucault, Giorgio Agamben and Roberto Esposito, the specifically modern form of ‘governmentality’ focusing on the ‘administration of individual and collective life’. Contemporary biopower is exercized by regulating, controlling but also commodifying ‘life’ (cf. Rose 2007).

Even though posthumanists also concern themselves with questions of technology and science, science fiction and futurity, they tend to deploy a longer term view of ‘how we

became human' and to what extent we might or should understand ourselves as 'posthuman' today. As opposed to transhumanists they stress our biological and microbiological entanglement with nonhumans – something that biotechnology has both made 'visible' and 'available' for human intervention. And, again as opposed to transhumanism, posthumanists promote an ecological and geopolitical (deep historical) understanding of the place and meaning of the human within the history of the planet, life and evolution, which explains their radical critique of human exceptionalism and speciesism in the face of anthropogenic climate change (cf. Anthropocene) and the challenges and extinction threats this poses to human and nonhuman life alike.

What one might call a posthumanist aesthetic is therefore thinking about art 'outside' traditional (humanist) human exceptionalism. How to think and display a world in which the human is no longer at the 'centre' of representation, all the while reminding 'ourselves' of the fact that the effects of human 'extraction' of planetary resources have never been more painfully felt. Posthumanism holds the human (or to be more precise, some humans) responsible, while searching for alternative, more ecological, more just and also more accurate models of cohabitation in a world of finite resources and multispecies entanglement, under technological conditions that have become to say the least, ambivalent, maybe even uncontrollable. Its eco-political stance explains why posthumanism in art often takes the form of (political, sometimes polemic) performances that highlight and

problematize questions of embodiment, while its techno-critical aspect (not to be confused with science fictional technophobia or techno-scepticism) often takes place in the creative lab (see below). In doing so, it is engaged in challenging humanist norms through transgressive forms of 'monstrosity' (cf. Lucian Gomoll 2011).

Dehumanization and the End of Art

It was Ortega y Gasset who, in 1925, spoke of the "dehumanization of art" (Ortega y Gasset 1968 [1925]), by which he meant the failure of modern art to involve people 'sentimentally' and thus to show a concern for the 'human element' and 'human destiny'. The 'unpopularity' of modern art is attributed by Ortega to the "progressive elimination of the human or too human elements characteristic of romantic and naturalistic works of art" (69), which leads to its abstract aestheticism or anti-realism, located in a "triumph over the human" (71) and the "ridding of all pathos" (80) – provoking in sum an "emptying of meaning" (82). This 'decline' or questioning of the human in modern art – and the stressing of the 'inhuman' object and perspective as a result – which characterizes the modernist avant-garde in particular was designed to produce a 'liberation of the image from man', as a valorization of the aesthetic object and a depersonalization of the artist, according to Oretga y Gasset. However, this also led to a 'heightened subjectivism' in producing the illusion of 'pure perception' (Colebrook 2014: 27). In the era of the posthuman, one might argue, what in modernism produces a

subjective aesthetic experience of impersonality and 'self-willing self-annihilation' in the face of the aesthetic object, becomes a general ecological and ontological concern, a generalized aesthetics, of concrete 'extinction' and 'inhuman worlds' (Colebrook 2014: 27-28).

However, "when the notion of the human becomes strained, so too does the concept of art" (Wamberg 2012: 141). The 'end of man' and the 'end of art' therefore seem coterminous. The end as finality, in a Hegelian sense, understood as completion or fulfilment, rather than a mere ceasing, is what provides meaning to both the human and 'his' art: "Art is rooted in the same human need that gives rise to religion and philosophy: to find and disclose an abiding meaning in the seemingly senseless accidentality and contradictoriness of finite existence, in the externality and alienness of the world of life; to make the world ultimately man's own home" (Markus 1996: 10). In this Hegelian, radically anthropocentric, sense, art is purely about human self-discovery.

Modernist art at the end of the 19th and beginning of the 20th century finds itself confronted with the question, in the formulation of Arthur Danto, what function and significance art might have 'after the end of art', in the state of art's heightened 'autonomy', once it is no longer subservient to the ideal of human self-discovery. This implies that art is in need of a new source of legitimation once it purely becomes an 'aesthetic experience for a subject'. It also means that art *itself* begins to ask what it is (for); it becomes increasingly self-referential, faced with the question why something may

be considered art (or not) – as in Warhol's famous 'neo-expressionist' Brillo Box (1964) – Danto's favourite example. In becoming philosophical, art turns 'conceptual' and as a result – this is Danto's (in)famous claim – comes to an end (Danto 1987: 209). To end (after Helegl), however, does not mean to stop:

> In its great philosophical phase, from about 1905 to about 1964, modern art undertook a massive investigation into its own nature and essence … It realized that it had identified its essence with something it could exist without, namely the production of optical equivalences, and it is no accident that abstraction should be among the first brilliant stages in its marvellous ascent to self-comprehension. (Danto 1987: 217; cf. also Danto 1997 and 2013)

The end of art is thus not its disappearance; rather, contemporary artists are concerned with the challenge of "what are artists to do when art is over with and where mechanisms of the market require that something happen that looks like the continuation of the history of art?" (Danto 1987: 209). In the face of market nihilism, art turning into a 'social institution and practice' as well as into an object of consumption and capitalist speculation, ironically, for Danto, also means that art can be seen to be returning to the "serving of largely human ends" (217), and to the "enhancement of human life" (218).

This, arguably, is precisely what posthumanist art is contesting on a number of levels. It is a repoliticization of art

not at a personal, but a ‘species’ level. It is a rehistoricization, not at a human, but a ‘geological’ (deep history) level. It is a reaesthicization of the real, however, not as a simple return to a mimetic (realist) representation of ‘reality’, but in finding novel forms of expression that challenge the limitations of human perception.

Rematerialization

As Katherine Hayles, one of the founding figures of posthumanism (cf. Hayles 1999), explains: “Throughout the long and varied tradition of aesthetics, one premise has always, implicitly or explicitly, remained unquestioned: that aesthetics has at its centre human perception” (Hayles 2014: 158). In many ways, a posthumanist aesthetic or an aesthetic of the posthuman remains necessarily ‘speculative’ in that it aims to escape and undo a human perspective (cf. Askin et al. 2014) and, instead, asks: “What would it mean …to imagine an aesthetics in which the human is decentred and inanimate objects, incapable of sense perceptions as we understand them, are included in aesthetic experience?” (Hayles 2014: 159). Hayles here engages with what has come to be known as ‘object-oriented-ontology’ (OOO – associated with philosophers like Graham Harman, Levi Bryant, Ray Brassier, Timothy Morton, or Ian Bogost) or ‘speculative realism’ (associated mainly with Quentin Meillassoux), which perform critiques of what they call Kantian ‘correlationism’ (cf. Meillassoux 2009). Kant and ‘Western metaphysics’ ever since, have been arguing that the ‘thing-as-such’, and by

implication the ‘world-as-such’, are not really experienceable ‘outside’ (human) subjectivity. Consequently, OOO and speculative realism set out to rediscover and re-evaluate an object world prior to and independent from the (human) subject or perceiver. Meillassoux refers to post-Kantian speculative realism as the recovery of ‘the great outdoors’ (Meillassoux 2009: 7 and *passim*).

The general aim of this shift, one might argue, is moving towards a new, radicalized form of alienation and re-materialization of aesthetics. Roberto Simanowski, referring to Ian Bogost’s work in particular, speaks of ‘the alien aesthetic’ (2014: 359ff) according to which art pursues the question ‘what is it like to be a thing?’ In “The New Aesthetic Needs to Get Weirder”, Bogost writes that a “*really* new aesthetics” would arise “if we asked how computers and bonobos and toasters and Boeing 787 Dreamliners develop their *own* aesthetics …” (Bogost 2012: n.p.). While the aesthetics of other beings might remain inaccessible to (human) knowledge, it might however be open to speculation and to art, Bogost concludes. This has obvious implications not only for art but also for design more generally (cf. Forlano 2017) and the disappearing boundary between the two. This ‘weird’ aesthetic wishing to discover ‘the secret life of things’ forms an inhuman perspective that may be particularly suited to doing justice to a complex situation in which, on the one hand, technologies and technological objects are starting to gain ‘smartness’ and autonomy (i.e. may be developing their own ‘aesthetics’ outside human perception), while, on the other hand, a new understanding of human and nonhuman

entanglement at an organic, biological level is forming around urgent ecological questions and challenges. In this sense, what Nicolas Bourriaud names 'relational aesthetics' allows for new forms of 'intersubjective' or communal experience based on the coexistence of human and nonhuman actors (Bourriaud 2002). It also responds to a situation in which 'matter' in all its forms seems to be proliferating, a revolutionary situation that characterizes the predominant form of (posthumanist) practice as 'postproductive', as Bourriaud calls it. This reflects "the proliferating global chaos of global culture in the information age [since the 1990s], which is characterized by an increase in the supply of works, and the art world's annexation of forms ignored or disdained until now" (Bourriaud 2010: 13). For artists this means that they "insert their own work into that of others" which contributes to the "eradication of the traditional extinction between production and consumption, creation and copy, readymade and original work [and that] the material they manipulate is no longer primary" (13). Key to both – the new forms of relationality and the new forms of object formation – is the new informational sphere created by the internet. The constant flow and reprogramming this new arch-medium affords leads to a "profound transformation of the status of the work of art" in which the "artwork is no longer an end point but a simple moment in an infinite chain of contributions", and thus itself becomes an agent or develops a life of its own (20).

It is important to stress, however, that this proliferation of aesthetic informational practice is not a *de*materialization or

a ‘disembodiment’ of art but rather a *re*materialization (in the sense of Jay David Bolter and Richard Grusin’s notion of ‘remediation’ [Bolter & Grusin 2000]) – the co-existence of many forms of materiality, or ‘distributed materialities’ as one might call them, in analogy with Katherine Hayles’s use of ‘distributed cognition’ for the way in which humans and computers interact (Hayles 2017). This return to questions of ‘matter-reality’ is usually associated with feminist new materialism. While matter is traditionally seen as ‘dead’, new materialisms inspired by feminist thinkers like Donna Haraway, Jane Bennett, Karen Barad, Vicki Kirby, Elizabeth Grosz, Stacy Alaimo and others start from the assumption that the boundaries between life and death, organic and inorganic, machines, humans and animals and, most importantly, nature and culture have always been porous and, under the conditions of accelerated technological change in the late 20th and early 21st centuries, have become an ‘optical illusion’, as Haraway explained in her hugely influential “Cyborg Manifesto”, first published in 1985 (Haraway 1991: 149ff.). Matter under these conditions is becoming increasingly ‘lively’ or ‘vibrant’, as Jane Bennett writes (2010), and is heavily contested (cf. Lange-Berndt 2015: 12). In many ways, this is based on a critical re-engagement with, on the one hand, indigenous cultural techniques and ideas related to animism and its extension towards a technological sphere, and, on the other hand, critical science studies and actor-network-theory, which extend the realm of the social to include nonhuman actors that are co-implicated in ‘material-semiotic’ networks

(Latour). This view opens up the perspective of what Karen Barad refers to as 'agential realism', or "the ontological inseparability of intra-acting agencies" (Barad 2003: 815). Inspired by this, artists like Patricia Piccinini (see case studies below) have been engaging with new forms of more-than-human networks, materialities and agencies in their works of "post-1990 new media art that draw attention to our encounters with new sciences, technologies, and other forms of matter, often in forceful and unexpected ways" (Mondloch 2018: 1).

Posthumanism Exhibited

While posthumanist thinkers like Haraway, Hayles, Rosi Braidotti or Cary Wolfe have been stressing the role of art as a source of inspiration and as a practice of 'imagineering' posthuman futures (Rossini 2003), posthumanism as a label for a significant current within contemporary art practice is (still) quite rare. Paul Greenhalgh describes posthumanism in his study of "The Rise and Collapse of Idealism in the Visual Arts" (2005) as an "attempt to move beyond the nihilism of absolute [postmodern] relativism" (97) by "critical realists", who, instead, are attempting to root relativism in "rooted empirical veracity" and the "technological sphere" (97). Its main concern is the "ability of science literally to transform, and even replace, the human body and mind" (98) – an example of the widespread confusion between post- and transhumanism. Steve Dixon (2007) anchors posthumanism to the rise of new media art and performance that develops

out of and radicalizes postmodern media society. While postmodernism, for Dixon, “is the explanation of how society has become consumed by mass media; how we are *becoming* the media”, posthumanism further extends this trend “until we are media itself” (153). Dixon’s focus, obviously, is on digital performance art, virtual bodies and ‘split’ subjectivities, when he writes that: “Posthuman theories, extending McLuhan’s concept of mediatized consciousness and Baudrillard’s ideas of simulacra and simulation, suggest that there is no reason why we should recognize breathing living bodies to have grater solidity and authenticity than electronic humans similarly engaged in performative actions” (Dixon 2007: 154).

Volume 4 of Valerio Terraroli’s *The Art of the 20th Century* (1969-1999: Neo-avant-gardes, postmodern and global art) tracks the development “From Postmodern to Posthuman” through new media and environmental sculpture and installation art by Matthew Barney, Mariko Mori and Cindy Sherman (Terraroli 2009). And in Andy Miah’s *Human Futures: Art in the Age of Uncertainty* (2008), Sandra Kemp uses the “Self Portraits” by multimedia artist Daniel Lee, fusing human and primate faces, Orlan’s extreme cosmetic surgery, and Patricia Piccinini’s hyperrealist waxworks of human and mutant figures, as well as Eduardo Kac’s transgenic bioart (see case studies below), to illustrate how the new [posthuman] aesthetic is (re)shaping the human and the human self-image. In doing so, it is attempting to keep pace with “ever-accelerating technological advances, from airbrushing and digital manipulation to cosmetic surgery and

whole face transplants" (Kemp 2008: 84). Kemp asks: "As digital faces are becoming as 'real' as live ones and transplants, how will our identity be affected and what is the effect of new technologies?" (*ibid*.).

Another way to track the rise of posthumanist themes and concerns in the art world is to look at some key exhibitions as well as changes to museum practices affected by posthumanist thinking. The first of these events is probably the exhibition "PostHuman", curated by Jeffrey Deitch at the FAE Musée d'Art Contemporain in Lausanne, in 1992 (cf. Deitch 1992), which focused on the fusion of art with science, computerization and biotechnology to "create further 'improvements' on the human form", as Deitch claims in his catalog essay: "in the future, artists may no longer be involved in just redefining art. In the posthuman future artists may also be involved in redefining life" (Deitch 1993). Posthumanist exhibitions, however, only really start proliferating in the second decade of the 21st Century. I can only give a selection of the most prominent events here. 2011 saw an exhibition exploring art in dialogue with speculative realism, entitled *And Another Thing: Nonanthropocentrism and Art*, curated by Katherine Behar and Emmy Mikelson at The James Gallery in New York (cf. Behar & Mikelson 2016, for a catalogue). In the same year, curated by Zhang Ga, "Translife" took place at the National Art Museum of China in Beijing – a media art event whose subject statement reads: "Amidst the global challenges of climate and ecological crises that threaten the very existence of humanity, the exhibition TransLife reflects on the whereabouts of humankind in

relationship to nature through a unique perspective and philosophical speculation, calling for citizen participation in facing these imminent challenges with artistic imagination to advocate a new world view of nature and a retooled humanist proposition" (*TransLife* 2011).

Susanne Pfeffer, curator at the Fridericianum in Kassel, organized a sequence of posthumanism-related exhibitions that reflects the variety of conceptual issues at stake in postanthropocentric thinking and art ("Speculations on Anonymous Materials" [2013], "Nature after Nature" [2014], and "Inhuman" [2015]). In an interview with Thom Bettridge she speaks of the representatives of 'post-Internet' art as dealing "with the interconnection of technology, economics, and ecology, and their awareness of being part of this system" while facing a situation in which "the human and human culture are no longer at the center" (Pfeffer 2016). In the same vein, "Dump! Multispecies Making and Unmaking", curated by Elaine Gan, Steven Lam and Sarah Lookofsky at the Kunsthal in Aarhus, in 2015, gathered artists, scientists and organisms "to explore multispecies collaboration that reshapes the ruins of modernity and resists industrial progress", while looking at "waste, obsolescence, and decomposition". This initiative was inspired by Donna Haraway's shift in her latest work towards ecological notions of 'multispecies justice' and 'compostism', in which she states that "we are not posthuman but compost" (Haraway 2019: 101-102).

The Istanbul Design Biennial, curated by Beatriz Colomina and Mark Wigley, in 2016, asked "Are We Human?" (Colomina &

Wigley 2016), while, in the same year, Anna Davis curated "New Romance – Art and the Posthuman", at the Museum of Contemporary Art in Melbourne (in collaboration with the National Museum of Modern and Contemporary Art in Seoul), to show how contemporary artists in Australia and Korea, inspired by science fiction, robotics, biotechnology, consumer products and social media offer "experiences that raise questions around the idea of the posthuman; a concept that signals new understandings of humanity and a breakdown of boundaries between what we think of as natural and artificial" (New Romance 2016). 2018 saw an exhibition on "Artists & Robots" at the Grand Palais in Paris, curated by Jerôme Neutres and Laurence Bertrand Dorléac, which was designed for visitors to "experience works of art produced with the help of increasingly sophisticated robots … offer[ing] a gateway to an immersive and interactive digital world – an augmented body sensory experience that subverts our notions of space and time" (Artists & Robots 2018). 2018 also saw "Post-/Human", curated by Oliver Gingrich at The Library in St. Martin's, London, sponsored by *Art in Flux* – a retrospective of posthumanist art since Deitch's 1992 exhibition, "[r]esonating concepts of Haraway's Cyborg manifesto, artists continue to question effects of technological impact on society, on concepts of gender, intimacy, communication" (*Art in Flux* 2018).

The great variety of approaches taken in this small selection of events – from the impact of artificial intelligence, biotechnology, climate change, digitalization and genetics – shows posthumanism and the posthuman as a common

concern of what a postanthropocentric world would mean for artistic practice and aesthetics more generally. Exhibitions, as well as museums, as "custodians of cultural memory and as trusted information sources … in a more-than-human world", as Fiona Cameron writes, "are ideally placed to concretely re-work human subject positions and frame and promote posthuman theories and practices of life through curatorial practice" (Cameron 2018: 349). One excellent example is the initiative "Museum of Nonhumanity", which opened in Helsinki in 2016, calling for "the deconstruction of the categories of animality and humanity in order to enter a new, more inclusive era" (Gustafsson & Haapoja 2019: 5).

Posthumanist Case Studies

In the second part of this essay I want to briefly present a number of case studies designed to show examples of how both artists and theorists of posthumanism have been collaborating to address and transform what Rosi Braidotti refers to as "our posthuman condition" (Braidotti 2019: 6-39; cf. also Braidotti 2013).

Case Study 1: Body and Performance Art

The Australian artist Stelarc (born 1946) and the French artist Orlan (born 1947) are generally seen as pioneers of posthumanist body performance. Their careers stretch back fifty years, and the developments their work and practices have undergone throughout this time is a good reflection of

the emergence of the aesthetic engagement with and transformation of posthumanist motifs and concepts, as Chris Hables Gray notes:

> There has been a clear progression in the work of both Orlan and Stelarc from performance art, to body art, to carnal art, to what can variously be described as cyborg art or post-human art. (Hables Gray 2002: 189)

Body artists in general see their bodies as design objects, i.e. not as a given but subject to changing conditions of embodiment, capable of aesthetic and technological transformation, and Stelarc and Orlan are no exception. Both are interested in redesigning the body and in challenging traditional (humanist, religious or 'naturalized') norms and taboos concerning bodies and their boundaries, as well as the (Christian-Cartesian) dualistic separation of body and mind. Instead, for them and for posthumanism more generally, bodies are neither natural nor artificial but the living proof of the inseparability of both; they are embodiments of 'naturecultures' in Haraway's and Bruno Latour's term.

Both provocatively articulate the assumption that the body is 'obsolete' (in its traditional sense), but they do so in very different ways and by different means, which can be mapped back to a certain extent onto gender difference. Orlan's best-known works are critical and extreme engagements with plastic surgery and female identity and thus address feminist political issues of sexuality, agency and beauty ideals (cf. Goodall 1999). Stelarc is embracing technological means of connectivity to problematize the notion of bodily extension

through prosthetics, networks and technological enhancement. Both, however, can be said to be practising what one might call ‘posthumanist performativity’ and ‘rematerialization’ (cf. above). Their experimenting on their bodies calls into question a traditional understanding of what it means to be human.

Both scandalize – Orlan mostly at a religious-moral and individual, Stelarc at a technological-ethical and social level – through what one might call the ‘cyborgization’ and hybridizing of their bodies. In doing so, their interventions are ‘prefigurative’ (cf. Hables Gray 2002) in that they indicate possible futures of human-nonhuman embodiment where body modification is not predominantly related to remedial prosthetics but becomes a question of choice, new aesthetics and ontologies. In fact, they might prefigure new forms of life and maybe even a new (human or posthuman) species. The process of rematerialization and posthumanization Stelarc and Orlan stand for corresponds to a shift towards a “performative understanding of identity” in which bodies and matter lose their traditional connotation as passive and stable, as Cary Wolfe (2018: 359) explains. Wolfe here refers to Judith Butler’s classic interventions in the 1990s on the social construction of bodies and genders (Butler 1990, 1993) and also builds on Karen Barad’s “relationalist ontology” that emphasizes the “co-constitutiveness of materiality and meaning” (Wolfe 2018: 360).

Orlan’s work provides a critique of Western notions of the body shaped by Christian, especially Catholic, tradition. It uses Christianity’s most sacred images and concepts – the

virgin Mary, mother of God – according to which the body is something that is both exalted as well as something that needs to be disciplined or even denied. There is thus a heretical element Orlan shares with Haraway who in her "Cyborg Manifesto" proclaims that she'd rather be a cyborg than a goddess (1991: 181). Orlan's bodily 'blasphemy' or 'heresy' is performed in a series of extreme surgical operations that go beyond the socially acceptable medical use of plastic surgery to 'enhance' beauty and rather aim for much more radical forms of transformation or 'morphing' (cf. Duckett 2000). These operations are also turned into a *mise-en-scène* or happenings, accompanied by readings, recorded or transmitted live to a public. Throughout her career, Orlan has thus "explored models of body knowledge that eschew the limitations imposed by a culture which divides body from mind, man from woman, the beautiful from the grotesque, the real from the virtual, and the virgin from the whore" (Heartney 2004: 232). Her performances are displays of artistic narcissism *and* political statements against patriarchy and its humanist ideals. They are 'carnivalesque', even 'humorous' (O'Bryan 2005: 9) and, in the case of "The Reincarnation of Saint Orlan", ironically 'literal' in their 'enfleshment'. The art she performs is 'carnal', which she defines as: "self-portraiture in the classical sense, but realized through the possibility of technology. It swings between defiguration and refiguration. Its inscription in the flesh is a function of our age. The body has become a 'modified ready-made', no longer the ideal it once represented …" (cf. Orlan's "Manifesto of Carnal Art", ctd. in O'Bryan 2005: 22). As Linda

Kauffman writes, Orlan "stands between past and future, human and posthuman" in performing a "juxtaposition of posthuman technology and ancient religion" (Kauffman 1998: 64):

> She is Janus: one side faces the past, which memorializes the obsolete body, carefully preserving its viscera as reliquaries. The other side faces the cyborg future, when the inorganic far outweighs the organic elements of the body. (64)

As the digitalization of technology and society progresses, intensifies and becomes more invasive, Orlan's forms of 'self-hybridization' (and body performance art more generally) become more and more entangled with the 'informational' and the 'virtual' which the process of computerization affords (cf. Ince 2000). This is a development that can also be tracked in Stelarc's work, which moves from the 'mechanical' prosthesization in his early works of 'body suspension' (flesh hooks inserted into the skin of a literally suspended body), to electronic 'exoskeletal' structures (cf. his "Third Hand" series) and networked bodies, to organic transplants (cf. "Third Ear"). Stelarc's aim in showing the 'obsolescence' of the human body is somewhat different to Orlan's in that it is closer to a *trans*humanist notion of a postbiological overcoming of the body and its seamless fusion with technology in order to "burst from [the body's] biological, cultural and planetary containment in the post-evolutionary age" (Carr 1993: 10). What characterizes Stelarc's projects and performances is a concern with the prosthetic in which the prosthesis is not the sign of lack but rather a "symptom of

excess" or "augmentation" (Stelarc 2010: 104). As the technologically prosthesized human body becomes augmented, in the informational age it also becomes a "nexus or a node" in a network of "collaborating agents that are not simply separated or excluded because of the boundary of our skin, or having to be in proximity" (111). This corresponds to an externalization of our nervous system as new possibilities of 'connectivity' arise and 'extended operational systems' are created. As Stelarc explains:

> The biological body is not well organ-ized [*sic*]. The body needs to be Internet-enabled in more intimate ways. The *Extra Ear: Ear on Arm* project suggests an alternate anatomical architecture – the engineering of a new organ for the body: an available, accessible and mobile organ for other bodies in other places to locate and listen in to another body elsewhere. (112)

Both Orlan's and Stelarc's work has been highly controversial because of its radical transformational approach regarding the human body and its hybridization. Stelarc has been seen as a representative of an optimistic or even technoeuphoric posthuman future, as well as being "indicative of the apocalyptic dangers of naïve … [and masculinist] approaches to incorporating militaristic technologies of control into the body" (Farnell 1999: 130), or indeed of a wider trend of "information freeing itself from its material, biological, bodily constraints". To be posthuman, Stelarc claims, "means to take up a strategy where one needs to shed one's skin and consider other more deep and more complex interfaces and

interconnections with technologies that we've generated" (Stelarc in Farnell 1999: 131).

Even though Stelarc or Orlan may today no longer be at the forefront of technoaesthetic innovation they remain key representatives of an "early digital-culture posthumanism" whose ideas have become generalized in new media materialism (Amiran 2019: 105). They coincide and are in dialogue with the beginning of a wider theoretical engagement with the figure of the posthuman in the academy, and are of a time when, as Arthur and Marilouise Kroker claim that "we are all Stelarcs now" (in Smith 2005: 63-86). While Orlan's work might be more closely aligned with Haraway's early organic cyberfeminism, Stelarc's posthuman embodiment mirrors Katherine Hayles's argument in *How We became Posthuman* (1999), which begins with the assumption that cybernetics has transformed the human body into "a material-informational entity" by "splic[ing] will, desire, and perception into a distributed cognitive system in which represented bodies are joined with enacted bodies through mutating and flexible machine interfaces" (1999: xiv). Hayles tracks this rematerializing development one might call 'posthumanization' through the post-WWII history of cybernetics and proposes that the shift towards a posthuman view occurs once we start thinking of the body as "the original prosthesis we all learn to manipulate, so that extending or replacing the body with other prostheses becomes a continuation of a process that began before we were born" (Hayles 1999: 3). The decisive ideological change that this involves, as Hayles writes, is that

a “posthuman view configures human being so that it can be seamlessly articulated with intelligent machines”, so that there is no longer any “absolute demarcation between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot technology and human goals” (*ibid*.). This posthuman moment, indicatively and aesthetically ‘performed’ by artists like Orlan and Stelarc, shows the “essential transformation … from biomorphism to technomorphism” characteristic of our time (Hayles 2001: 305), in which the human and its world is subject to “computing” (Hayles 2005). It is also the time when all art becomes ‘digital art’, either in directly exploring digital code as a new material sphere of exploration or simply as a (post-media) ‘platform’ from which to delve into a fundamentally transformed, informational-semiotic, world in which virtual and actual reality become thoroughly entangled in a convergence of new, social and mobile media based on ubiquitous computing, data bases and algorithms, networks and artificial intelligence (cf. e.g. Grau 2003; Corby 2006; Berry & Dieter 2015; Gronlund 2017; Crowther 2019; Zylinska 2020).

Case Study 2: Science Art / Lab-Art

This digitalization process coincides with the rise of modern ‘technoscience’ more generally. All posthumanist art is therefore ‘technological’ in the sense that it is produced under the technoscientific and technocultural conditions of the late 20th and early 21st centuries. However, it is precisely

this connection between art and technology that is also foregrounded and problematized in posthumanist aesthetics. Art, in fact, has always been 'technological' in the sense that it is a central cultural technology. In other words, art and technology are etymologically closely linked – the Latin *ars* is in many ways the translation of the Greek *techne*; both originally mean 'craft' or 'skill' (in a practical and rhetorical, as well as a 'creative' sense). When Martin Heidegger claims that the essence of technics or technology is nothing 'technological' but rather is 'poietic', in the sense of 'creative' or 'transformative' (Heidegger 1977 [1954]), he reminds us that humans and technology are co-constitutional, i.e. that our relationship with technology is 'originary'. This is also Bernard Stiegler's stance (cf. Stiegler 1998), which has been very influential in posthumanist thinking. This means that a merely 'utilitarian' notion of technology which understands technology as basically a (human) 'tool' or a 'prosthesis', is underplaying the ontological condition our entanglement with technology creates and which, under modern conditions, has become our main 'challenge'. Technology rather than being a human 'invention' challenges the human and acts as a kind of 'framing' (i.e. Heidegger's famous *Gestell*). Or, in other words, the human and 'its' compulsion to design are inseparable (cf. Colomina & Wigley 2021).

This insight is certainly not posthumanism's discovery. Modern art since the rise of industrialization in general can be said to be an engagement with the 'machinic', its aesthetic and the anxieties and desires that surround it. Futurism was particularly 'technoeuphoric' in its idolatry of the machine

and its ideal of man-machine fusion. What characterizes the specific 'posthuman(ist) condition' of our own time, to which a lot of contemporary art practice responds, is, on the one hand, an intensification and acceleration of technological development, and, on the other hand, a reaction to the specialization of scientific knowledge this produces and which is driven by economic development. What is going on in the science labs of the world has become of central political, economic and military importance while, for the general public, it has become less and less graspable. This raises ethical questions, for example whether genetically modified food and the genetic manipulation of 'life' is the right way forward. How to 'inform' the public and convince the 'consumer' to accept future scenarios produced by science as desirable in the absence of transparency and verifiability? This becomes of crucial importance at a time when the survival of not only the human species but life in general, on this planet, is at stake, whether this is because of persisting nuclear, or due to ecological threats produced by anthropogenic climate change. Posthumanist art – whether it openly embraces the label or only shares a similar take on the set of issues this specific technocultural condition produces – is concerned with this public role of science, its institutions, its practices and understands itself as a political-aesthetic and techno-social intervention. Art and science – both reliant on and reproducing technology – form "the twin engines of creativity in any dynamic culture" (Wilson 2010: 6). In this sense a lot of posthumanist art can be described as 'science art' (Stocker & Schöpf 1999; Ede 2000; Gould & Wolff Purcell

2000; Edwards 2008), or ‘lab art’ (Reichle 2005). It is ‘experimental’ in the literal and scientific sense and asks whether art can not only provide a critical commentary on scientific practice and use its latest technologies but also make a genuine contribution to scientific exploration and technological (re)design. To this effect, the science-art-lab scenarios necessarily engage in inter- or even transdisciplinary knowledge co-operation and production, as Sigrid Weigel explains, which include “meetings between bioscientists and performance artists, video artists and ethnologists, champions of land art and climate scientists, urban planners and writers, museum historians and architects, filmmakers and neuroscientists” (Weigel 2011: 10). Needless to say that this also requires an engagement with and an intervention within the production and practice of scientific research.

As Stelarc, representative of most posthumanist artists in this respect, explains that artistic practice has to “develop strategies in order to interface with the scientific community and academic institutions” (Stelarc 2010: 114). This also means, however, that art research or ‘research-creation’ (Loveless 2019: 4ff.) increasingly has to fulfil academic requirements and standards before ethics committees and funding bodies while complying with scientific criteria. Very often, artists like Stelarc and the bioartists discussed below are on academic contracts or university positions at either publicly or privately funded ‘art and science labs’. They may be in the process of acquiring academic qualifications through their artistic research, and are therefore also bound by

contracts that require them to publish their work in peer-reviewed academic or scientific journals. Since art's social role, however, is not to sanction or to simply illustrate or 'explain' scientific knowledge, but needs to be seen to be 'disturbing', 'risqué' or 'disruptive', this alliance between science, art and the public is not without dangers and tensions. So while most contemporary posthumanist art is conceptually driven it also involves a variety of technical, media and research skills that are impossible to master by a single person and which instead call for collaboration and inter- and transdisciplinary approaches (cf. Gere 2010; Loveless 2019).

Outside an institutional framework, the kind of artistic practice engaging with science but also very critical of science practice is often 'activist' in its campaigns, projects, performances, happenings and installations. A prime example of this approach can be found in the work of the Critical Art Ensemble (CAE) – a collective of 'tactical media' artists or practitioners with expertise in video, computer and web design who stage (often participatory) political protest events mainly engaging with biotechnology and bioscience and their role in what the CAE call 'global eugenics' and the 'flesh machine' (Critical Art Ensemble 2001: 174ff.). They describe themselves as a group "dedicated to the exploration of the intersections between art, technology, critical theory, and political activism" (CAE 2000: 50), who "expose the performativity of science through tactics that include the presentation of scientific techniques" (Triscott 2009: 153). Their aim is to reveal and interrogate complicities between

science, politics, the military and capitalist economy. The 'tactical' media events they create are understood as a form of 'cultural intervention' (CAE 2014: 146) like in the example of "Radiation Burn (2010)" which involved setting off a mock 'dirty bomb' in a public park as part of the Werkleitz Festival 2010 in Halle, Germany. The aim of this 'installation' was, on the one hand, to look into the scientific feasibility of dispersing radioactive material through conventional explosives, and, on the other hand, to expose the 'myth' of an imminent threat of a terrorist dirty-bomb attack as an instrument for state propaganda. Practically, by setting off a 'mock' dirty bomb the intention was to "recreate the hype around this instrument while at the same time deflating the spectacle" (CAE 2010).

Case Study 3: Bioart / Transgenic Art

This co-involvement of art, science and research is also very evident in bioart, transgenic art or *l'art biotech'* (Hauser 2003). While biological processes and structures have obviously intrigued and inspired artists for a long time it is only really with the advent and availability of gene-sequencing, gene-splicing and gene-editing biotechnology or bioengineering that artists have started creating works, often in collaboration with bioscientists, working in 'wet labs' and at medical institutions (Kuppers 2007), by using human and animal tissues, micro- and other living organisms. 'Life' (*bios*) is here used as "raw material waiting to be engineered" (Catts 2018: 66). Bio-artistic practice ranges from "critical

interventions into contemporary biotech practices to proposals for techno-utopian solutions" (Berger et al. 2020). The posthumanist dimension that artists working with and on 'life' – sometimes creating new life forms, or A-Life (artificial life, in analogy with AI, artificial intelligence) – implicitly or explicitly involves a provocation to or critique of humanist ethics based on the 'sancitity' of (human) life by breaking religious or moral taboos of 'playing God'. As opposed to 'pure' science, however, bioart and art transforming at a molecular (Weibel & Fruk 2013; Anker & Nelkin 2004) or genetic level (transgenic art), are about questioning and showing how (scientific) knowledge is produced and the cultural effects this might have. This includes a radical reopening of the question of what it means to be human, animal, and alive (cf. Grau 2003: 296-336). It also complicates the status of bio-technology as a practice of creating 'artificial' life forms that are thoroughly 'technical'. By highlighting the production processes involved and turning them into aesthetic and political performances and curatorial or media events, bioart enters the controversial and contested territory of genetic manipulation in the contemporary 'bioimaginary' (Steinberg 2015). Through their hybridizing forms, often creating provocatively 'monstrous' chimera, artists are triggering and targeting affective and ethical responses from the public, like disgust, fear, wonder, recognition, rejection or inclusion (Holmberg & Ideland 2016). In this sense, bioart performances usually involve multimedia events in which life, technology and their 'mediation' are foregrounded, so that one might also speak of 'biomedia'

(Thacker 2004 and 2005) and its spectators' 'embodied sense' of "the transformative power of life" (Mitchell 2010: 11).

In the context of what one might call a growing postanthropocentric awareness of human and nonhuman biological entanglement at a microbiological level – studies of the 'microbiome' or organisms show that the notion of biological 'species' is not as clear-cut as it might seem and that 'symbiosis' between organisms is the norm and in fact constitutes one of the main drivers of evolution – bioart arises out of, and 'tactically' intervenes in, (micro)biopolitics (da Costa & Philip 2008). It challenges traditional notions of 'bioethics' (Zylinska 2009). As Jennifer Johung points out, the notion of 'life' operating in contemporary biotechnology and bioscience as 'living matter that can be reworked' goes far beyond earlier ideas of 'organic life'. It is this difference also that constitutes "an opening where art and architecture may intervene – to visualize, situate, perform, publicize, and contest the ways we now manipulate and recontextualize the particulate mattering of biological life" (Johung 2019: 2). The main political aim of bioart might be to illustrate not only our posthuman but also our 'post-natural' condition, in the sense that contemporary biotechnology, biopolitics and bioart are breaking down the boundaries between (biological) nature, science and art, as well as between humans and animals, and animals and plants, the organic and inorganic, and thus intensify the attack on the (humanist) notion of an 'autonomous' human subject. Instead they show (human) agency to be distributed or dispersed, entangled within a multispecies context. As such bioart is located within, but also

negotiates the more general context of, modern biopolitics and biopower which, following thinkers like Michel Foucault, Giorgio Agamben, Nicholas Rose and Roberto Esposito, constitute a mode of the political "whose distinctive characteristic is that *life itself* in its barest form becomes the direct object of political power" (Wolfe 2017: 217).

Rosi Braidotti, one of the foremost thinkers of the posthuman, distinguishes, within the contemporary "proliferation of discourses that take life as subject and not as object of social and discursive practices", between *bios* and *zoe* (2008: 177). Life, she writes "is half animal, or zoe (zoology, zoophilic, zoo), and half discursive, or bios (biology)", with zoe being "the poor half of a couple that foregrounds bios, defined as intelligent life" (177). Braidotti's argument, however, is that, even within the human body, zoe and bios cannot really be separated. For her, the posthuman is therefore about "becoming animal, becoming other, becoming insect" and thus reconnecting with the vitalist and materialist notion of life. It is about constructing a more just, radical politics based on an affirmation of shared, embodied living and "nonanthropocentric vitalism" (184). It is in this sense, that bioart is engaged in exploring and intervening in the shifting boundaries between life and death and in showing how living matter is becoming the subject and not just the object of enquiry. It thus develops a technologically mediated life of its own so to speak.

A leading proponent of bioart is Oron Catts, an artist, researcher and curator, who, in collaboration with Ionat Zurr, pioneered the ongoing "Tissue Culture and Art Project"

(TC&A), established in 1996 – one of the most widely discussed projects in biological art. This project is run through an art-science lab called SymbioticA, directed by Catts, at the School of Anatomy, Physiology and Human Biology, of the University of Western Australia. TC&A highlights the 'vulnerability' of biotechnological creations, especially in the form of 'semi-living' sculptures like, for example, in "Victimless Leather: A Prototype of a Stitch-less Jacket Grown in a 'Technoscientific Body" (2008)" (cf. Senior 2008: 76). The "Victimless Leather" installation uses bioengineered mammal tissues grown over biopolymer scaffoldings (cf Radomska 2017; Salter 2015; Johung 2019: 49-78). These require sterile growing conditions in a 'bioreactor' to survive and usually have to be 'killed off' at the end of an exhibition, in a 'killing ritual' which is used as an integral part of the performance to involve the public in ethical questions about life, its technological mediation, consumption and termination. The kind of tissue-engineering which is involved here also plays an increasing part in regenerative medicine more generally (Thacker 2005: 251-ff), as well as in the race for alternative food technologies to animal slaughter (cf. in-vitro meat and TC&A's "Disembodied Cuisine" project, which claims to have produced the first artificially grown 'steak'; Catts & Zurr 2013). TC&A's aim is to expose "gaps between our cultural perceptions of life and scientific knowledge and its implementation", and to make the viewer aware "of our lack of cultural understanding in dealing with new knowledge and control over nature" (Catts & Zurr 2002: 369-370). It highlights "the ethics of experiential engagement with the

manipulation of life" Catts & Zurr 2008: 125-142) and thus raises posthumanist questions of human responsibility and 'interspecies care' (cf. Adams 2020).

Eduardo Kac's work focuses on "telepresence and bio art" and combines "telerobotics and living organisms" (Kac 2011). Through a combination of robotics, biology and networking it explores "the fluidity of subject positions in the post-digital world" (Kac, n.d.). Kac is also well-integrated in the academic scene and engages with posthumanist theory and its discussion of bioart. Like all of the artists presented in this essay he regularly not only features but intervenes in these theoretical and philosophical discussions, commenting on his own and others' works and their political or ethical implications (cf. Kac 2005, 2006) – a rather typical cooperative approach between posthumanist art practice and posthumanist theory. Kac is probably best known for his controversial "GFP Bunny" (2000) project – a transgenic lab-art-*cum*-media-performance work commenting on the creation of life and evolution. The bunny in question, ironically called "Alba" (i.e. white) was 'bioluminescent' – a rabbit with an implanted Green Fluorescent Protein (GFP) from a specific type of jellyfish that would glow green under blue light. Kac himself describes Alba less as a visual artwork, however, but as "a complex social event that starts with the creation of the chimerical animal that does not exist in nature" (Kac, in Stephens 2015: 59). An essential part of this project was the public dialogue generated by it and "the social integration of the rabbit" which led Kac to "develop a

series of works in a variety of media, including drawing, photography, print, painting, sculpture, animation, and digital media" (Kac, n.d.). It is thus a piece of transgenic lab art, as well as a media and marketing campaign designed to provoke ethical thinking about gene-manipulation and the creation of 'monstrous' artificial life forms. It constitutes a critical intervention in contemporary bio-techno-politics (Kac 2001: 120ff.; Blocker 2009: 98-102) inspired by what Kac calls the "artist's responsibility to conceptualize and experience other, more dignified relationships with our transgenic other" than corporate genetic engineering practices (Chalmers & Kac 2013: 71). The specific point of conversion between Kac's transgenic art and posthumanist thinking lies in dealing with the implications of new microbiological insights that 'we are all transgenic creatures', in a sense, since humans "have absorbed genetic material that comes from nonhumans, in our genome" (Chalmers & Kac 2013, 78). This realization obviously challenges anthropocentrism, humanism and speciesism and instead produces 'vivid new ecologies' that do not necessarily function according to traditional humanist or human visuality, as Cary Wolfe argues, and thus "subvert the centrality of the human and anthropocentric modes of knowing and experiencing the world" (Wolfe 2009: 145).

Case Study 4: Animal Art

Bioart often involves animals – both human and nonhuman – and their unstable boundaries and hybridizations, chimeras that are culturally marked as 'monstrous'. However, as Jeffrey

Jerome Cohen puts it: “the monster polices the borders of the possible” (Cohen 1996: 12), a negotiation process that Elaine Graham refers to as “ontological hygiene” (Graham 2002: 33-37).

‘Animal art’ usually evokes these taboos, plays with and transgresses them. In bio-techno-media-political times there is no clear demarcation between animal art, bioart and digital media art. Posthumanism in fact begins by challenging the boundaries between *both* our traditional significant others: machines *and* animals. Instead it ‘de-anthropocenters’ the human by foregrounding entanglements, assemblages and hybridizations between humans, animals and machines insisting that contemporary technologies are merely the latest phase in a long history of human-animal-technology co-evolution. Animal art, as one visual or symbolic expression of posthumanism, can of course use biotechnology ‘literally’ (as in the case of Kac, for example) or figuratively. Examples of such a figurative use can be found in Patricia Piccinini’s art works, especially her sculptures of ‘imagineered’ (cf. above) transgenic animals or chimeras. As opposed to Kac or the TC&A project, Piccinini in her work does not use ‘biomatter’ as such. Her work is not produced in a wet science lab although it does of course make extensive use of digital media technology in its design and manufacture.

Piccinini’s best known and most discussed work is probably a sculpture called “The Young Family” (2002), made of a combination of silicone, acrylic, plywood, human hair, leather and timber. Kate Mondloch describes a typical first ‘encounter’ with Piccinini’s fantastic and at the same time

hyperealistic, ‘monstrous’ figures as a “face-to-face with otherworldly biotech-generated creatures” (Mondloch: 3). These ‘charmingly grotesque’ beings are engaged in ‘everyday activities’ – in this case, “a nursing family of mutant porcine-bovine-hominoid crossbreeds” (*ibid*.). Encountering them in their exposedness and vulnerability, enhanced by their hyperrealist detail, does not fail to provoke sympathy alongside disgust. Piccinini’s installation “allows you to experience yourself shamelessly anthropomorphizing these nonhuman entities”, which in turn, “might challenge your notion of what it means to be human in the first place” (*ibid*.; for a more extensive reading see Mondloch: 65-85). As Piccinini herself explains, her intention lies in “out-weirding the world”:

> Obviously the things that I create don’t actually exist but perhaps they could. In fact, perhaps I create them because they should … The possibilities for my creations are already amongst us, and before too long the things themselves could turn up unannounced, without our ever having had the opportunity to wonder how much we want them …There is no question as to whether there will be undesired outcomes; my interest is in whether we will be able to love them. This leads me to an additional implication … the empathy that might arise when we imagine ourselves in another’s life, in their shoes. (Piccinini 2006)

Provoking further reflection and discussion by evoking our ambivalent emotions and exploring our ability to empathize (an ‘ability’ often wrongly believed to be unique to humans),

"The Young Family" is part of a number of installations that display 'humanimal encounters' designed to facilitate a possibility for ethical engagement with the nonhuman animal 'other' (Orning 2017: 80ff). In a time "when flesh is becoming plastic", Piccinini wonders "what we will do with flesh when we can control it", and points out that "there is a nice conceptual irony in my use of silicone – basically a kind of plastic – to create flesh in works that talk about the plasticity of flesh" (Piccinini 2005: 104). It is a figuration of reengaging with our animality, or our 'becoming animal', precisely at the time when some humans may be all too keen to finally 'overcome' (or rather repress) our (biological) animality and instead fantasize about a fusion with some techno-utopian form of 'artificial intelligence' (cf. transhumanism). Animal art is "acknowledging that our place in the world of life is less supreme than we would like to think" (Piccinini 2005: 105).

Donna Haraway, although critical of the label 'posthumanism', is usually seen as one of its founding figures, especially due to her seminal "Manifesto for Cyborgs" (1991 [1985]). The figure of the 'cybernetic organism' as a combination of human/animal and machine is the most iconic sign of posthumanism's early 'cybernetic' phase, followed by a more general 'nonhuman turn' (Grusin 2015), with an increased focus on biopolitics and biotechnology, animal studies and anthropogenic climate change – all reflected in Haraway's more recent work, as well as in the posthumanist art work discussed in this essay. Haraway herself provides extensive commentary on Piccinini's 'posthuman offspring', which illuminates both Piccinini's art as well as Haraway's

thought, and their posthumanist context more generally (cf. Pimentel Biscaia 2019). As Haraway writes: “When I first saw Patricia Piccinini’s work … I recognized a sister in technoculture, a co-worker committed to taking ‘naturecultures’ seriously without the soporific seductions of a return to Eden or the palpitating frisson of a jeremiad warning of the coming technological Apocalypse” (Haraway 2011: 1). About “The Young Family” more specifically Haraway says: “Piccinini’s work is full of youngsters … ambiguously foetal-like transgenics”, who act as part of a “queer family whose members require us to rethink what taking care of this country [i.e. Piccinini’s Australia], taking care of these generations, might mean” (2). Piccinini’s ‘critters’ thus also have a strong element of ‘ecological care’ attached to them: “Stem cell research, genetic engineering, cloning, bioelectronics and technologically-mediated ecological restoration and kin formation loom large … and provoke the onto-ethical question of care for the intra- and inter-acting generations” (4). In her approach, Piccinini performs a kind of ‘anti-Frankensteinian’ ethics, rectifying the scientists’ lack of ‘care’ for their ‘monstrous’ progeny, as well as attempting to right colonial wrongs Western science has helped to commit (e.g. towards the Australian aboriginal population). Haraway thus sees in Piccinini’s work an ally in what she and ecological or critical posthumanism more generally see as an opportunity “when species meet” (Haraway 2008), namely a “move toward multi-species reconciliation” (Haraway 2011: 7).

The ethical drive in contemporary posthumanist animal art, as Cary Wolfe puts it, is thus to find solutions that do not speak *for* nonhuman animals, but speaking *to* our relations with them and how to take those relations seriously, which "unavoidably raises the question of who 'we' are" (Wolfe 2009: 130; cf. also Grosz 2011: 169-186; and Sutton 2017). Conceptually, however, 'the animal' does not occupy just any place in the history of representational art, as Steve Baker writes: "the very idea of the animal is in some way aligned with creativity, or in alliance with creativity" (Baker 2003: 147). It is not a coincidence that prehistoric art should explore what it means to be human through representations of animals (cf. Bataille 1980; Kendall 2009). What characterizes contemporary and posthumanist animal art is that animals are not simply 'objects' of art and of (human) creative desire; they are treated as "creatures who actively share the more-than-human world with humans, rather than as mere symbols or metaphors for aspects of the so-called human condition" (Baker 2013: 4; cf. also Broglio 2011).

In fact, one way of reading the phrase 'animal art' is to take it even more literally than bioart tends to do, namely by attributing *both* subjectivity *and* agency to animals and to treat animal aesthetics as a practice that is actually performed by (nonhuman) animals – a similar case can of course be made for plants, machines, 'objects' or 'environments' (see below). The ethologist Dominique Lestel, for example, speaks of "non-human artistic practices" like birdsong, ape-paintings and many other animal 'cultural practices' and the (evolutionary) basis they might actually

form for (human) artistic practices (Lestel 2011) – an argument that is made even more forcefully by the posthumanist philosopher Roberto Marchesini, who speaks of the 'zoomimetic' origin of art (cf. e.g Marchesini 2016). By zoomimesis Marchesini designates the fact that human imitation of animals has deeply influenced human behaviour and culture and continues to do so, to illustrate 'our' strong co-dependence. A case in point in this context, also used by Marchesini and Karin Andersen in their co-authored volume *Animal Appeal* (2003), is Daniel Lee's work, especially his series of "Self-Portaits" showing him as a human-primate morph, or as a "Manimal" (the title of an earlier series of images by Lee, in 1993). Lee's digitally transformed portraits are a literal interpretation of contemporary posthumanist art's 'becoming animal' (Thompson 2005). As Karin Andersen comments: "The particularity of Lee's beings is based on a teriomorphism without any connotation of value in anthropomorphic terms: they are no evil monsters or freaks (in the sense of aberrations or caprices of nature), but neither are they angels; their teriomorphia is simply a given, a phenotype like any other" (Anderson 2003: 394, my translation).

Becoming animal, or in fact re-becoming animal, in the sense of recognizing and responding to our bio-ecological co-implication with nonhuman animals and their environments, is closely connected with a more general ecological turn, not only in posthumanist thinking. Nevertheless, critical posthumanism's contribution to the debate about climate change and the 'Anthropocene' lies mainly in reminding

techno-enthusiasts of humans' biologically entangled embodiment and humans' responsibilities towards nonhuman others.

Case Study 5: Environmental Art, Anthropocene Art, Art and Climate Change

If posthumanism went through a 'cybernetic' phase in the 1990s and a 'digital' one in the 2000s, it could be argued that from 2010 the main conceptual shift has been towards engaging with anthropogenic climate change and the 'Anthropocene' as a new geological period characterized by the fact that humans (at least those human societies that have been driving industrialization, oil extraction, colonialism and globalization) have become the single most significant geological agent as far as changes to the planetary atmosphere, the biosphere, the reduction of biodiversity (cf. the sixth mass extinction) and the ongoing processes of terraforming and increasing toxification are concerned. Rosi Braidotti, consequently, characterizes our 'posthuman condition' as being "positioned between the Fourth Industrial Revolution and the Sixth Extinction" (2019: 2). The Anthropocene – even though its name might be controversial since it contains the root *anthropos*, the universal humanist concept of 'man' that postanthropocentric posthumanism has actually set out to 'decenter' – has a 'mobilizing' ecological force and also produces new aesthetic perspectives. It "marks a period of defamiliarization and derangement of sense perception" (Davis 2018: 63), or

aisthesis (the Greek work for ‘sense perception’ and etymon of the notion of the ‘aesthetic’). Climate change, according to Heather Davis, entails a “complete rearrangement of our sensory and perceptive experience of being in the world, where the threat itself becomes hard to identify based on the sensory limitations of our bodies” (64). The scale of something like climate change, which in its vastness and complexity goes beyond human perception in both ‘space’ and ‘time’, and surpasses notions of ‘nature’, ‘culture’ and ‘technology’, ‘human’ and ‘nonhuman’, has led Timothy Morton to speak of ‘hyperobjects’ as “things that are massively distributed in time and space relative to humans” (Morton 2013: 1).

Art in the Anthropocene (cf. Davis & Turpin 2015) consequently deals with the scalar challenges to representation of climate, ecology, cosmology and geology (both deep space and deep time, so to speak) and becomes a “polyarchic site of experimentation for living in a damaged world, offering a range of discursive, visual and sensual strategies that are not confined by the regimes of scientific objectivity, political moralism or psychological depression” (Davis 2018: 64). Through its ‘modelling’ and ‘imagineering’ ability, art may thus provide a space for “dealing with the affective and emotional trauma of climate change”; it can “hold together contradictions” and provide “modes of expression for the collective suffering through and venues to express the emotional toll of living in a diminished world” (65). It is testimony to what one might call the new ‘geological imaginary’ and the contemporary “geological

reformation of the human [and nonhuman] species" (Davis & Turpin 2015: 3); or, indeed, a reflection of "the geologic now" (Ellsworth & Kruse 2013). It also shows that the 'aesthetic' has truly become a 'more-than-human' affair (cf. Dixon, Hawkins & Straughan 2012; and Yusoff 2010). In doing so, and by taking on not only a *bio*logical but also a *geo*logical perspective, it offers "an inspiring means for understanding and communicating the complexity of the biological and mineral entanglements linking species through metabolic pathways and networks" (Bakke 2017: 41).

In fact, one might argue that what 'Anthropocene art' shares with posthumanism is the question of how to deal with the 'end of the world' in a post-, or rather, non-apocalyptic way and how to imagine new forms of co-habitation under these circumstances. It is therefore no surprise that many of the installations, projects, events that engage with posthumanism, postanthropocentrism and the Anthropocene contain features of 'earth or land art' – "artistic gestures that are transforming sculpture from the production of distinct three-dimensional objects on pedestals to something less clearly definable, something that hovers ambivalently between architecture and not-architecture, landscape and not-landscape, and that properly belong to neither" (Krauss, ctd. in Loveless 2019: 1). Some of the most compelling artists today, therefore, "are forging new representational and performative practices to reveal the social significance of hidden, or normalized, features inscribed in the land" (Scott & Swenson 2015: 1). Following ground-breaking land art projects like Robert Smithson's "Non-Site" (1968) and "Spiral

Jetty" (1979), more recent works, for example by Olafur Eliasson, tackle the even more urgent, contemporary ecological issues in their installations using architectural, geological-geographic and climatic elements. Eliasson's "Ice Pavillion" in Reykjavik (1998), "The Glacierhouse Effect Versus the Greenhouse Effect" (2005) or "The Weather Project" (2003) are cases in point (cf. Cavazzini 2010: 238-241; Blanc & Ramos 2010: 148-155; Logé 2019). In one of his most recent works, "Dark Ecology" (2016), Eliasson combines water colour techniques with using "chunks of ancient glacial ice that were fished from the sea off the coast of Greenland":

> A piece of ice was placed on a circle defined by a thin wash of black ink; as the ice gradually melted, the water displaced the pigment, creating organic swells and fades within the established tone. The subtly fading blue of the background results from the repeated application of thin, transparent layers of pigment. Employing chance and natural processes, these watercolours are experiments that attempt to harness the spontaneous behaviour of natural phenomena as active co-producers of the artwork. (Eliasson 2016)

Conclusion

I want to conclude with one artist who openly engages with posthumanist theory and also embraces the label for her art practice: Eija-Liisa Ahtila. Her multi-media installations often relate to 'human drama' but are also fundamentally about new forms of empathy and perception with a strong

ecological element in their postanthropocentric message. Often they also involve an important aspect of animal art in that they challenge human perception through plant and nonhuman animal perspectives. Her "Studies in the Ecology of Drama" (2014; cf. Chaffee 2015) uses sculpture and video installation to create narrative positions and ways of filmic focalization that challenge the centrality of the human viewer by foregrounding the perspective of a swift. Technologies are here shown to enable humans to overcome their physiological 'limitations' to see the world differently and to develop new, hopefully more 'ecologically sustainable' sensibilities towards the planet and nonhuman animals (cf. Dinkla 2019; Cavazzini 2010: 44-45; and K21 2008).

Cary Wolfe sees Ahtila's work as paradigmatic of an artistic engagement with biopolitics in which concerns like "domestic space, immigration and colonialism, sexuality, gender, and animality … relations between the realms of the human, the animal, and the divine (or transcendent)" all combine to show that there is no human 'immunity' to environmental entanglement (Wolfe 2015: 82). In her interview with Wolfe, Ahtila admits that reading Jakob von Üexküll on 'Umwelt', Giorgio Agamben on 'bare life' and J.M. Coetzee on 'the animal', as well as Wolfe's own texts about posthumanism and biopolitics, has been transformational, especially for her more recent work (Ahtila 2015: 119). Ahtila, in many ways, could thus be seen as the epitome of a contemporary (critical) posthumanist artist. She combines a critique of technology, human-centred vision and narrative, humanist anthropocentrism, exceptionalism and speciesism with an

aesthetic that is informed by new feminist materialism, ecocriticism, animal studies and object-centred or nonhuman ontologies.

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