Nonhuman Creativity

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The artist is not present[1]

A small four-wheeled vehicle, looking like an offspring of a skateboard and a giant pendulum, is chortling alongside a white wall of the Grand Palais in Paris in June 2018.[2] During its short up-and-down journeys it is leaving multicolored squiggles on the wall, producing a palimpsest of graffiti which, from a certain angle, looks like a thicket of jumbled-up wires. This is *Senseless Drawing Bot* by So Kanno and Takahiro Yamaguchi : another iteration in the long line of "art-making robots" which have graced the art scene since computation allowed for the removal of the human artist from the visible side of the creative process—if not from its planning, design and programming. There are points of convergence between this work and Patrick Tresset 's series of performative installations called *Human Study* (2012-ongoing) , which involve embodied robotic agents equipped with computer vision placed at wooden desks and drawing objects captured by on-board cameras. In a similar vein, Leonel Moura 's *Robot Art* (2011-ongoing) uses ensembles of small programmable vehicles that leave colorful ink marks on large sheets of paper in response to cues (movement in *Bebot* , sound in *PRO [Painting Robots Orchestra]*). Following in the footsteps of their renowned predecessors from the previous generations of media art, such as Jean Tinguely's kinetic painting sculptures called *Méta-Matics* (1950s) and Harold Cohen's painting program AARON launched in

1973, these new iterations of art-making robots go beyond the relatively narrow scope of creative possibilities resulting from the historical limitations of the mechanical systems underpinning them. They also go further than their more mainstream counterparts whose modus operandi is premised on style transfer, where a robot can produce a credible rendition of, say, van Gogh's *The Starry Night* in under five hours.[3] Using the principles of machine learning, the art-making robots of Kanno and Yamaguchi, Tresset and Moura pick up cues from the environment to come up with novel images—images that their programmers have no ultimate control over.

Drawing on complex algorithms of artificial intelligence which make it impossible to predict the final outcome of the drawing or painting process, those works reboot robot art as a playful, almost childlike pastime—and a spontaneous expression of a moving body.[4] Except, here, the body is no longer human. With this, the robots' constructors stage the provocative idea of creativity as a domain of more-than-human activity. Moura goes so far as to claim that: "Whether a work of art is made directly by a human artist or is the product of any other type of process is nowadays of no relevance. ... More decisive is whether or not a new art form expands the field of art. ... [S]ince robots like those I use are able to generate novelty, it must also be recognized that they have at least some degree of creativity."[5] We could probe further and ask whether these artistic propositions can genuinely be said to withdraw the human artist from the (art) scene. Or do they perhaps enact a different, but not any less radical, proposition: the possibility of the absence of agency at the heart of the human, of the fact that "there is no *there* there," not just in artists but *in all of us*?

The works discussed above all involve men playing with robots. And so, while they do indeed withdraw the (male) artist from the scene, they reinstate a "boy" (and his mechanical toys) as a background for creative practice. There are of course other ways of engaging with the problematic of the artist's creativity being fed by machines—such as Erica Scourti's *Unlusts* (2019) and *THINK YOU KNOW ME* (2015), in which the artist's voice, language and persona is gradually remodeled by her iPhone, or the mobilization of the Internet's hive mind by art collective Clusterduck in their project *#MEMERSFORFUTURE*. Works of art in which the artist has seemingly been replaced with a robot or a computer attract attention because they capture our anxiety with regard to the programmable aspects of reality at a time when algorithms of artificial intelligence are organizing our lives in so many dimensions. They also raise deeper questions about the humanist concepts that shape our idea of ourselves such as agency, autonomy, decision-making ability, and free will. In this way, they open up a critical enquiry into the nature of creativity—and into the (truncated perhaps) role of the human in it. The investigation of this problem, and of the way it is approached in contemporary media art, forms the core axis of this essay.

The philosophical premise of my argument[6] is that human creativity has always been partly nonhuman, i.e., that it has entailed an other-than-human element. At the same time, we rely on the recognition of this creative activity *as art* by human judgement—which both arises out of and shapes human institutions and cultural practices. Even though I claim that all human creativity has a nonhuman aspect, this essay will not be about *all* kinds of creativity and hence about *all* kinds of art. Instead, it will focus on those works of new media art that engage —explicitly or, more often, implicitly—with this proposition about

art's inherent nonhumanity and technicity by bringing it to light, be it through embracing human-nonhuman co-existence (e.g. bioart; geomedia; hybrid human-animal-plant art; works that engage with nonhuman cognition and perception) or co-creation (e.g. robot art; AI/algorithmic art; generative art; multiverse works).

My own position on what I term "nonhuman creativity" is aligned with the theoretical standpoint of "critical posthumanism," a position which "negotiates the pressing question of what it means to be human under the conditions of globalization, technoscience, late capitalism and climate change."[7] This position does not mean any straightforward overcoming of the human (were such a thing even possible), but rather a "*rewriting*"[8] or reenactment of the human under the crisis conditions listed above. The said crisis is multiple in volume and planetary in scale. Importantly, critical posthumanism doesn't just describe it: it also mobilizes the human's—*and the planet's*—fragility as an ethico-political demand. Artists today are responding to this demand in a variety of affective registers: from horror, melancholia and mourning through to irony, parody and exuberant play. This reenactment of human subjectivity and agency is often accompanied by an attempt to rethink the role and position of the artist, acknowledging entanglement and co-creation as the ontological condition of existence for us all.[9] Importantly, in many artworks today the planet is engaged as a partner rather than an object to play with (or destroy), bringing in issues of responsibility and care to both art practice and art discourse.[10]

Creativity beyond the human

As a working definition, I am going to adopt computer scientist Margaret Boden's theorization of creativity as "the ability to come up with ideas or artefacts that are *new*, *surprising*, and *valuable*."[11] Leaving aside, for now, the question of how the judgement about the postulated qualities of those ideas and artefacts is to be exercised, Boden's writings on creativity deserve attention because of her efforts to take computer art and other forms of media art seriously as interventions that can shift established epistemological *and* ontological frames. In *Creativity and Art: Three Roads to Surprise* she recognizes that some philosophers refuse "to admit the possibility of computer art by defining 'art' in exclusively human terms."[12] Anthony O'Hear, for example, insists that "art involves some form of communication between one human being and another,"[13] with artist and audience being required to share *human experience*. In contradistinction to such explicitly and narrowly humanist views, Boden acknowledges the possibility of defining art "in terms of properties of the art object that are not exclusively human,"[14] even if she herself does not follow through on the investigation of what such non-human art would present as, mean and of who it would be addressed to.[15] (At the risk of getting ahead of myself, my *Nonhuman Photography* (2017)[16] was an attempt to explore precisely this issue by looking at images in an expanded frame, from fossils through to QR codes.)

The humanist concept of creativity, the seeds of whose critique we can find in Boden's writings, has been with us at least since the Renaissance. Modelled on the *ex nihilo* way in which God was supposed to have created the universe, it has found its direct translation in the Romantic idea of the human (most often of the male variety) as a stand-alone genius, thinking amazing thoughts and making beautiful artefacts from above the world. Nina

Sellars ' *Creation* (2005) , an interactive computer installation that remediates Michelangelo's *The Creation of Adam*, offers an apt illustration of this shift in the idea of creativity prompted by new media technologies—and of the new understanding of ourselves instigated by those technologies. Combining anatomical drawings with digital rendition and stitching, the artist recreated three figures from the original painting as virtual 3D constructs. Importantly, the figures are shown as "as partially finished, hollow bodies with their internal anatomy worn only as skins,"[17] opening up the notion of creativity understood as creation, while revealing the existential gap at the very heart of both the human *and* humanism.

Explicit challenges to the humanist model of creativity have recently been issued from many other directions than just computer science or computer-based art. Looking at prehistorical cave drawings and shell carvings, Marcus du Sautoy points out that traces of artistic creativity, which he defines as "making marks with an intention that ... goes beyond mere utility," can most likely be traced as far back as 500,000 years, to our human ancestors such as Homo erectus and the Neanderthal. "This is art created by another species," he says.[18] Artistic expression is believed to have served a binding function within those early communities.[19] In evolutionary psychology the emergence of creativity's outcomes in the form of art is seen as being continuous with the creative processes of other living beings, such as bowerbirds, whose males construct colorful multi-texture lodgings, and marine creatures such as snails, bivalves and coral polyps, which produce elaborate limescale architectures to serve as their homes. Creativity is explained by many scientists as offering a species-level advantage—through

enhancing our cognitive faculties or satisfying our supposedly innate desire for symmetry, order and "beauty."[20]

Philosopher of posthuman thought Claire Colebrook does not mince her words in critiquing this line of thinking: "Such an argument is stupid," she writes, "not because it is wrong (error) but because it fails to give form to the drives that have generated art. There may be a drive for pattern-finding that helps animals to survive, but art is the power to render that drive different from its originating ground, thwarting and perverting patterns, generating more complex syntheses."[21] Following this argument, it is not enough for something to "look like (what we have predefined as) art" *to us humans*. Hence all these experiments in getting chimpanzees or elephants to paint, and then delighting at their "abstractions," should just be considered as silly humanist detractions that end up reaffirming the human as the sole arbiter of artistic judgement and sole owner of "art" as both activity and concept. Colebrook's argument builds on Henri Bergson's idea of creative evolution, where life is seen as "an explosive power of creative difference, and a counter-tendency of resistance."[22] Bergson also emphasizes our tendency to "cut up" matter and "carve out" objects from this flow of life—a tendency that is a sense-making strategy enacted by humans.[23] We could thus say that, under certain circumstances, certain groups of living beings recognize these certain acts unfolding across time as "art"—and have, through their history, created a whole lot of institutions and practices that legitimate those practices in these terms. Colebrook's critical statement should not therefore be mistaken for a postulation of *uniquely human* creativity: what she is rather getting at is that the evolutionary, functionalist explanation of art curtails all too quickly the human ability to recognize something as truly creative. This logic can be seen in the pronouncements of

technology companies which promise us creative gadgets that will be absolute “game changers” while having to rely on the majority of the elements of the “game”—the capitalist system of exchange, the extractivist logic of overproduction and overconsumption—to remain largely the same, or even to be strengthened in the process. Such “arguments by extension” with regard to creativity are therefore deeply uncreative: they show a failure of imagination, or, worse, a willing desire for things not to get *too* different and hence *too* creative. This brings us to a concept of creativity as non-functional excess,[24] a breaking through beyond the human and a possibility of the emergence of new sensations and new modes of knowing.

Restaging (and upstaging) the human

What can the concept of nonhuman creativity accomplish if it is not to serve as a mere extension of human creativity and human art to other creatures, be it animals or robots? We can turn here to Rosi Braidotti as a thinker associated with the position of “critical posthumanism,” whose critique of the unified human “I” as the subject of politics and ethics has been put in the service of imagining better ways of thinking and living. In her book *The Posthuman* Braidotti outlines an agenda for “post-human Humanities,” premised on a radical reinvestment in critical thought and a creative (and non-hysterical) engagement with technology: “The image of thought implied in the post-anthropocentric definition of the Human ... stresses radical relationality, that is to say non-unitary identities and multiple allegiances.”[25] Arguing against the prophets of doom, she proposes that posthumanism must be “technologically

mediated," enlisting "the resources of bio-genetic codes, as well as telecommunication, new media and information technologies"[26]—basically, the palette of materials that shape up media art. The relational aspect of Braidotti's argument is important: it foregrounds that ethical and political theories need to start from the position of radical entanglement with human and nonhuman others, and with the universe as such. The subject of ethics arising out of this entanglement will be able to challenge the individualism and self-possession of normative moral theories. "[C]onstituted in and by multiplicity," it will be a subject that, for Braidotti, "works across differences and is also internally differentiated, but still grounded and accountable."[27]

Braidotti's work resonates with many artistic practices that take the human to task as a historically limited, politically disabling thought-object. Morehshin Allahyari offers her own practice of figuration "as a form of feminist and activist practice," which is aimed at challenging "the dystopian fiction that extrapolates from the white, able-bodied, colonial, heteropatriarchy that structures our world,"[28] as the quote by the Out of the Woods Collective that frames her work puts it. In her project, *She Who Sees The Unknown* (2017-21) , Allahyari 3D-scans, prints and models monstrous female/queer figures of Middle Eastern origin known as *jinn*, placing them in videos and projections overlaid with poetic-philosophical narrative. And thus, for example, the not-quite-human Huma, typically represented as a demon with three heads and one or two tails, is seen as someone who brings heat to the human body and is responsible for the common fever—whom the artist repositions as "levelling all temperature" on a heat-stricken planet. The Laughing Snake, in turn, a murderous monster who self-destroys while laughing, is reinterpreted as a manifestation of agency over the female body and of a recapture

of her self-image. Allahyari's creative archival gesture not only rediscovers the hidden past but also helps imagine a posthuman future as a more convivial space for various sorts of entangled entities and beings—including the planet itself.

We can see this interrogation of the parameters of the human in the work many other media artists, such as Carmin Karasic and Rolf van Gelder, Aram Bartholl, MALK and LaTurbo Avedon. The kaleidoscope installation *human*^{n} by Karasic and van Gelder (2008) literally twists and turns our idea and self-image of ourselves. On approaching the installation, viewers are faced with a remix of the live video of themselves and of the moving images from a database of "humanity," seeing themselves as both actors in the world's events and inconspicuous particles swept in its swirls. Bartholl provokes us with the question, *Are you human?* (2009-2013) , which serves as a title for his series of aluminum and steel cutouts showing CAPTCHA codes. CAPTCHAs, those annoying random sequences of letters and numbers presented to us in a twisted or otherwise exaggerated form when trying to access certain websites, are aimed at differentiating between a human (who uses contextual intelligence), and a bot (which mainly relies on visual pattern recognition). Given how difficult it can be for humans to decipher some of those CAPTCHA squiggles, the artwork signals our anxiety about the present in which an increasing number of people are denied access to physical and digital spaces, which mediate access to everything from immigration and health through to insurance and credit, due to decisions of nonhuman algorithms (albeit authorized by human programmers), while pointing to a future in which we may all find ourselves on the wrong side of the digital door. (Or, as HAL puts it in *2001: A Space Odyssey*: "I'm sorry Dave, but ... I must... override your authority

now since you are not in any condition to intelligently exercise it.")[29]

The MALK duo, a collaboration between Mark Amerika and Laura Kim, have mobilized critical posthumanist sensibility to explore not just the role but also the very ontological parameters of who (or what) counts as an artist today, at a time where the ideas of uniqueness, originality and self-possession have been put to rest by both critical theory and media practice. Their *Remixing Persona: An Imaginary Digital Media Object from the Onto-Tales of the Digital Afterlife* (2019) consists of a digital artbook and a remix music video titled *Digital Afterlife*. Described by David J. Gunkel as "a revealing (mis)adventure ... where what had been called 'artist' now becomes a remixed/remixing persona in the infernal networks of recirculated big data,"[30] the work performs digital artistry with humor and irreverence, mashing up early-days-of-the-Internet aesthetics with Gothic imagery and glitch. As the dancing Amerika-lookalike avatar croons in the video, "Is it just me? / How could it be? / I'm just a phantom / With no I.D." This light-hearted playfulness is underpinned by a deeper philosophical interrogation of human subjectivity as constituted by a multitude of flows, connections, and media. As expressed in the book part of the project, "The always already remixed and remixing persona, in ceasing to become indexical, transforms into the living embodiment of a complex field of action brought into the world via an operational presence performing an/other version of itself, an agential form of thing-power."[31] Even though all humans are seen as being made and remade into digital personae within the meshed media network, the artist becomes a unique, temporarily identified node that captures the event of media-becoming—and that renders it as a sensible object for others to experience and partake in.

That suspension of artistic authority and belonging is taken even further in the practice of LaTurbo Avedon , a post-gender, post-national artist inhabiting online spaces that *only* exists as an avatar. Their 2015 installation aptly titled *ID* features a haunting soundtrack, accompanying a 3D rendering of a female-presenting head, with more-than-perfect skin and dead eyes, and of the close-up of a hand. Being drawn more and more into the decomposing image, in which we see the rendering grid and its component graphic elements, we are faced with a series of uncomfortable questions: Is the digital turning the uniqueness of our digits into unrecognizable traces? Do we all live in a "hyperimprovisational remix machine fueled by intuitive forms of transcendental interoperability," as MALK have it?[32] At a time of the constant optimization of our subjectivity, which is increasingly digital,[33] are we all just poor versions of our own avatars?

Becoming *humanimal*

In their critical interrogation of the human as "peak species" which has remained blind to its own structuring violence, artists have turned to nonhuman animals and their habitats.

Yet this has not been a naïve return to nature or a fantasy search for an Edenic communion with a world that never was. These encounters with nonhuman animals tend to be "technologically mediated," to use Braidotti's phrase, bringing in technicity as the organizing principle of human and animal individuation—and thus a condition of relationality, art, culture, and what we humans have called "the world." Such projects challenge the philosophical misrecognition on the part of Martin Heidegger, who saw animals

as “poor in the world,” supposedly lacking the human ability to become *attuned* to what surrounds them.[34]

For the artists under discussion, animals (but also fish, insects or fungi) are not only seen as capable of enacting this attunement but *are* themselves formative *of* the world, which is seen as relational and entangled. The artists also recognize the different affordances of this attunement for various species in different geopolitical locations—while acknowledging it is a human responsibility to account for its conditions, and to try and make them better. Importantly, the art projects we are looking at here go beyond the queasy moralism that would advocate being “nice” to animals: they understand the complex biopolitical dynamics at work in the world hierarchies, where human and animal lives—even though having differential values—can all serve as products, commodities and data points. This is why such works can present as uncomfortable or even disturbing, as they stage the violence of the biopolitical industrial complex where bodies and lives are being used up for both profit and pleasure. But they also bring in a new socio-political sensibility which is manifested in actions against the climate crisis, the recognition of interspecies cross-habitation and an ethics of care.

Revital Cohen & Tuur Van Balen ’s *Life Support* (2008) offers an intervention into the racing industry, where pedigreed greyhounds are being bred for profit and then retired after three to five years—which frequently means they are euthanized. In a series of speculative images, the design-trained duo propose an ethical reassignment of the dogs as respiratory assistants for humans with breathing difficulties. The idea creates a life-sustaining system in which the two organisms, dog and human, function as life supports for each other, while also becoming a

metaphor for symbiotic conviviality. In the *K-9_topology* series (2017) Maja Smrekar performs a radical biointimacy between herself and her dog by pumping the scent of the pleasure hormone serotonin extracted from herself and her dog into the gallery space. In a non-sexual non-fertile gesture of extreme proximity, she also had one of her ova extracted and then used as a host for a somatic cell of her dog Ada. The work foregrounds the mutual coevolution of humans and canines, while highlighting the necropolitical undertones of our current relationship with animals and other creatures on our planet. Smrekar's project echoes Art Orienté Objet's *May the Horse Live in Me!* (2011), in which a female artist undergoes injections with horse blood while putting on external signifiers of "horseness." While there is a danger of such works being interpreted as artists just cos-playing interspecies relations while reaffirming human hegemony, all of the projects presented here have a strong self-reflexive critical aspect, combining scientific research, cultural analysis and the artists' own commentary on the power relations involved. The necropolitical dimension of humanimal relationships is picked up in a true gut-wrenching manner by Berenice Olmedo in her *Canine TANATO-commerce* (2012-2014), arising out of a long-term practice in which this Mexican artist collects, with tenderness and care, discarded corpses of dogs and turns them into attractive-looking artisanal merchandise: bags, shoes, coats. Revealing the ontological uncertainty between being and thing, between life and death, the violence against animals as staged by Olmedo is literally *on us*.

Planetary co-creation

More playful projects that construct complex humanimal worlds involve Ollie Palmer's *Ant Ballet* (2010-2012) and Elvin Flamingo's *The Symbiosity of Creation* (2012-ongoing), a multi-tank sculptural arrangement of ants, soil, plants, and pipes in which life processes are on display yet also remain unconcerned by the human gaze. The role of the artist is here that of a "constrained demiurge," setting in motion the operations of a small universe while knowing they have no ultimate control over it, with emergence, growth, decay, and death as inevitable components of the unfolding creative acts. The human artist can therefore be said to be just enframing, in media forms familiar to us (be it dance, TV-like performance or sculpture), the ongoing "creative evolution" of the universe: they cut into and capture life for us, the way artists have done for centuries, immobilizing it in the process. But the artist can also become involved in casting light on the destruction of the complex planetary relations of different scales, as enacted in works such Maria Thereza Alves' *Seeds of Change* (1999-ongoing), which traces the dissemination of seeds across the globe via merchant sailing ships' ballast, or *Desbosque* [Unforesting] (2021) by the art collective Fibra, which presents a fungal broadcast of deforestation unfolding in Ucayali, Peru. The masculinist fantasies of artist as godlike creator have thus been challenged by those for whom the activity of world-building can only occur as either a cut in the already unfolding flow of life (as in Flamingo's or Alvarez's case), or a rendition, often enacted in collaboration with an AI algorithm, that, once set in motion, can always go rogue. That possible AI breakout, the opening toward new models and new visions of the universe, is something to be welcomed—as it is for the artist duo Pussykrew. In their haunting video installations which merge real-life animation, game aesthetics and VR, such as *The Bliss of Metamorphing Collapse* (2019), they take visitors on a head-

spinning ride across a posthuman universe in which consciousness has migrated beyond carbon-based humans. Inhabited by post-gender beings, their new world can be described as an incarnation of a feminiqueer counter-apocalypse,[35] enacting what Nicole Seymour has playfully described as "bad environmentalism."[36] Departing from the portent tones of climate catastrophe discourse and post-Anthropocene art, bad environmentalism performs politics as camp, while challenging the assumption that "reverence is required for ethical relations to the nonhuman, that knowledge is key to fighting problems like climate change."[37] This approach ruptures the foundational premise of modern Western epistemology: the link between perception and knowledge. As Paul Virilio recognized in his eerily prophetic book *The Vision Machine*, the perception of the environment is now being shared "between the animate (the living subject) and the inanimate (the object, the seeing machine)."[38] Building on Virilio's legacy, artist Trevor Paglen—whose practice interrogates how the logic of total transparency promoted by the socio-political apparatus translates into global surveillance while also creating zones of opacity that hide the actual operations of power—has pointed out that: "The overwhelming majority of images are now made by machines for other machines, with humans rarely in the loop."[39] The emergence of a universe of images that includes yet bypasses the human has severe consequences for both our perception of ourselves and vision of the world—but also for the world outside our perceptions of it.

Katja Novitskova 's work embraces this spirit of misperception when dealing with planetary environmental issues. Her aptly titled *If Only You Could See What I've Seen with Your Eyes* (2017) creates a "digital jungle"[40] from images printed off from the

Internet and turned into 3D objects, from an eyeless photocopied polar bear cutout through to wires wriggling like serpents on the floor. The project explores the incredulity of scientific knowledge and perception, engaging human and nonhuman vision to tell a playfully chilling story about a future that may have already happened. Novitskova's post-Internet dystopia has been described as "art for another intelligence,"[41] inviting speculation on what comes *after* the human. Much of the art produced today in response to climate change and the threat of extinction of various species—including our own—ends up reaffirming the cognitive-sensory apparatus of the human as reader, perceiver and "experiencer." Would it be possible to seek a defamiliarization of not just "the environment" (by showing it as damaged, disappearing or already gone) but also of us humans as recipients of sensations from the environment conceived in a broader sense—and of which we are part? It is indeed in that latter practice of imagining a world for a different recipient that a radical critical gesture can be identified.

A cut is more than a wound: media art for a planetary ethical opening

The work of *Geocinema* (2017) is precisely an attempt to go beyond human perceptive and cognitive scales in order to get us to think what it really means to see and sense the world. The artists have constructed a form of slow cinema:[42] a process of capturing the movement of time and matter on light-sensitive surfaces that is too slow for human perceptive capacity to register, even if its consequences most definitely aren't. Geocinema have also expanded the image-making apparatus to

the planetary level, involving a network of mobile phones, surveillance cameras, satellites, and geosensors that all form what we might term a "distributed universal camera." This state of events reveals, in the words of Vilém Flusser, "a new kind of function in which human beings and apparatus merge into a unity."[43] Here, the camera is also a container: it envelops us with image and data flows while delimiting our perceptive and conceptual horizon. This state of events has been poetically illustrated with Refik Anadol's immersive installation, *Archive Dreaming* (2017), which uses machine learning algorithms to construct a network of connections between 1,700,000 documents from the research collection of Istanbul's cultural institute, SALT. Touching, grabbing and zooming into digital images from the surrounding display, visitors to this evocative installation could experience themselves as temporarily stabilized points in the larger network of image and data flows, partially integrated units of sensations permanently in touch with other units of various scales. Aarati Akkapeddi's *After Image* (2019), another archival project that uses machine learning to navigate between family photos and studio images from the Studies in Tamil Studio Archives and Society, is a poignant illustration of such image clustering as a way of constructing subjectivity from image flows. It is also an invitation to reframe questions about our origin and kinship as ethico-political tasks.

The concept of nonhuman creativity encourages us to rescale the human to a different measure. Cutting the human down to size, it allows for the opening up of the historical definition, with its colonial wounds and epistemological delimitations, to the planetary horizon—while also issuing an ethical injunction. In this context, media art can be read as a historically-significant human practice of attuning our sensorium to events and transformations

unfolding in our world—and of recalibrating our attention and sensibility to a different measure. Unlodging humans from their position as masters of creation, both as artists and as living breathing inhabitants of planet Earth, media art creates the possibility of seeking new ways of relating, both in the sense of cultivating more caring relations and developing more responsible modes of communication. Importantly, those singular, and often minimal, interventions on the part of human artists, acting in conjunction with their nonhuman counterparts, scale up into a network of practices. The creativity of media art's collective forcefield, exceeding that of its individual counterparts, can make all the difference in the world—for us *and* for the world.

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1 This section title is a transposition of Marina Abramovic's renowned performance project, *The Artist Is Present*, which took place at MOMA in 2010. It involved the artist sitting in front of members of the public in a gallery space for nearly three months, eight hours a day. https://www.moma.org/learn/moma_learning/marina-abramovic-marina-abramovic-the-artist-is-present-2010/

2 At the *Artistes & Robots* exhibition at the Grand Palais, Paris, April 5-July 9, 2018.

3 This a reference to the ReART project, presented by CMIT Robotics from Kasetsart University, which was the winner of the 2017 edition of the Robot Art competition.

4 Art historian Laurence Bertrand Dorléac positions these "joyful" painting robots within the trajectory of performance art, surrealism, Dada, and ludic expression. See Laurence Bertrand Dorléac, "Porquoi avoir peur des robots?," *Artistes & Robots*, eds. Laurence Bertrand Dorléac and Jérôme Neutres (Paris, Réunion des musées nationaux – Grand Palais, 2018), 14-35.

5 Leonel Moura, "Robot Art: An Interview with Leonel Moura," *Arts* 7 3, no. 28 (2018), doi:10.3390/arts7030028.

6 This essay builds on the theoretical work developed in my recent books: Joanna Zylinska, *Nonhuman Photography* (Cambridge, MA: MIT Press, 2017), and Joanna Zylinska, *AI Art: Machine Visions and Warped Dreams* (London: Open Humanities Press, 2020).

7 Stefan Herbrechter, "Critical Posthumanism," in *Posthuman Glossary*, eds. Rosi Braidotti and Maria Hlavajova (London: Bloomsbury Academic, 201), 94. Key writers associated with critical posthumanism include N. Katherine Hayles, with her book *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatic* (Chicago: University of Chicago Press, 1999); Cary Wolfe, with *What Is Posthumanism?* (Minneapolis: University of Minnesota Press, 2010); Donna Haraway, with her multiple works on cyborgs and multispecies relations; and Rosi Braidotti, with *The Posthuman* (London: Polity, 2013, and aforementioned *Posthuman Glossary*.

8 Herbrechter, "Critical Posthumanism," 94.

9 This rethinking is part of a wider socio-political agenda currently unfolding in some sections of the art world. In the not-quite-post-pandemic year of 2021, the UK's Turner Prize—a trendsetting and often provocative prize aimed to celebrate modern British art—shortlisted only art collectives (Array Collective, Black Obsidian Sound System, Cooking Sections, Gentle/Radical, Project Art Works). Some of their members had never exhibited within the traditional gallery circuit, having been known for their collaborative, activist and community practice instead.

10 Many artists currently working on care are in conversation with María Puig de la Bellacasa's book *Matters of Care: Speculative Ethics in More Than Human Worlds* (Minneapolis: University of Minnesota Press, 2017).

11 Margaret A. Boden, *Creativity and Art: Three Roads to Surpris* (Oxford: Oxford University Press, 2011), 29.

12 Boden, *Creativity and Art*, 8.

13 Cited in Boden, *Creativity and Art*, 8.

14 Boden, *Creativity and Art*, 9.

15 Boden writes: "I shan't offer any 'non-human' definition of art, designed to allow the inclusion of the computer-based varieties. Quite apart from the air of special pleading that would attend such a definition, it would require lengthy argument that would be out of place here," *Creativity and Art*, 9.

16 The Nonhuman Photography project includes a book of the same title, a series of image-based works and an online Museum of Nonhuman Photography, https://www.nonhuman.photography/.

17 Nina Sellars, *Creation*, 2015, http://www.ninasellars.com/?catID=9.

18 Marcus du Sautoy, *The Creativity Code: How AI Is Learning to Write, Paint and Think* (London: 4th Estate, 2019), Kindle edition.

19 See Nigel Spivey, *How Art Made the World: A Journey to the Origins of Human Creativity* (New York: Basic Books, 2005).

20 See, for example, Anjan Chatterjee, *The Aesthetic Brain: How We Evolved to Desire Beauty and Enjoy Art* (New York: Oxford University Press, 2014); Dennis Dutton, *The Art Instinct: Beauty, Pleasure, and Human Evolution* (New York: Bloomsbury Press, 2009); V. S. Ramachandran and W. Hirstein, "The Science of Art: A Neurological Theory of Aesthetic Experience," *Journal of Consciousness Studies*, 6, no. 6-7 (1999), 15–51.

21 Claire Colebrook, "The Becoming-Photographic of Cinema," author's manuscript published on https://www.academia.edu/20056672/The_Becoming_Photographic_of_Cinema

22 Claire Colebrook, *Death of the PostHuman: Essays on Extinction*, Vol. 1 (Ann Arbor: Open Humanities Press, 2014), 209.

23 Henri Bergson, *Creative Evolution*, trans. Arthur Mitchell (New York: Random House, 1944 [1911]), 124-5.

24 I'm arguing here against the functionalist understanding of creativity outlined by Marcus du Satoy. Explaining the development of creative activity in bowerbirds, he argues: "at some stage this skill [evident in building elaborate grass towers] developed to the point where they were able to do way more than was strictly necessary. Excess, demonstrating the ability to be wasteful, is of course a signal of power in animals and humans. So pushing oneself to be extravagant in making a nest or singing a song is a way of signalling one's suitability as a mate," *The Creativity Code*, Kindle edition.

25 Braidotti, *The Posthuman*, 144.

26 Braidotti, *The Posthuman*, 145.

27 Braidotti, *The Posthuman*, 49.

28 See Morehshin Allahyari, http://shewhoseestheunknown.com/

29 HAL 9000 was an AI-programmed robot in Stanley Kubrick's film, *2001: A Space* Odyssey (1968).

30 http://www.openhumanitiespress.org/books/titles/remixing-persona/

31 MALK (Mark Amerika and Laura Kim), Remixing Persona: An Imaginary Digital Media Object from the Onto-Tales of the Digital Afterlife (London: Open Humanities Press, 2019), 95.

32 MALK, *Remixing Persona*, 89.

33 See Olga Goriunova, "Digital Subjects: An Introduction," *Subjectivity*, 12, no. 1 (2018), 1-11.

34 Martin Heidegger, *The Fundamental Concepts of Metaphysics, World, Finitude, Solitude*, (Bloomington, IN: Indiana University Press, 1995), 177. For an explication of the concept of attunement in Heidegger see Gerard Kuperus, "Attunement, Deprivation, and Drive: Heidegger and Animality," *Philosophy* 2007, paper 37 (pre-print), http://repository.usfca.edu/phil/37

35 I am seeing this term as an iteration of the concept outlined in Joanna Zylinska, *The End of Man: A Feminist Counterapocalypse* (Minneapolis: University of Minnesota Press, 2018).

36 Nicole Seymour, *Bad Environmentalism: Irony and Irreverence in the Ecological Age* (Minneapolis: University of Minnesota Press, 2018).

37 Seymour, *Bad Environmentalism*, 5.

38 Paul Virilio, *The Vision Machine* (Bloomington and Indianapolis: Indiana University Press, 1994), 59-60.

39 Trevor Paglen, "Invisible Images (Your Pictures Are Looking at You)," *The New Inquiry*, December 8, 2016.

40 Judicaël Lavrador, Curatorial texts for *La Belle Vie numérique! 30 artistes de Rembrandt à Xavier Veilhan* (Paris: Fondation EDF / Éditions Beaux Arts, 2017), 40.

41 Toke Lykkeberg, "Art for Another Intelligence: The Work of Katja Novitskova," in *If Only You Could See What I've Seen with Your Eyes*, eds. Kati Ilves and Katja Novitskova (Berlin: Sternberg Press, co-published with the Center for Contemporary Arts, Estonia, 2017), 28.

42 Artist-writer Sasha Litvintseva's concept of "geological filmmaking" encapsulates this dynamism between geology and film. See Sasha Litvintseva, "Geological Filmmaking: Seeing Geology Through Film and Film Through Geology," *Transformations*, issue 32 (2018).

43 Vilém Flusser, *Towards a Philosophy of Photography* (London: Reaktion Books, 2000), 27.

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