

# Breeding sentience: queering lineage and voguing enhancement

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### Abstract

In our indulgence to touch immortality, our fear of being forgotten, our unconvincingly altruistic embrace of self-love, our attempt to get rid of social and biological pressures or simply the uncaring lightness of an inadvertent encounter, we grip the reproductive practice. Today's tales of the birds and the bees are a wholly different reproductive conversation as male fertilization, female ovulation and surrogate gestation have become more and more hacked to respond, not only to the reproductively challenged, but also to a demanding array of kinship design strategies. This panel entitled "Breeding sentience: queering lineage and voguing enhancement" focuses on the enriched experience of procreative manipulation through artistically creative forms of ART (assisted reproductive technology). As critical "reprotech" voices, the six panelists approach the topics of: (a) the unnatural selection of species, (b) the growth of human-animal hybrids, (c) biodiversity and neoeugenic engineering, (d) gender/genital sociocultural rebalance, (e) matchmaking based on genome sequencing, (f) the impact of preimplantation genetic screening, and (g) prenatal imaging. Our point is that art must be taken into account, to validate the checks and balances, at a time when the ethical limits and the multitude of potential human genetic manipulations are consistently challenged through the practice of formally deregulated principles.

### Keywords

ART, Baby Bump Selfies, Bio Art, Biobank, Boy or Girl, DNA Valentine, Genetic Art, Genome Editing, GM, Hybrid Life, Medical Imaging, Reproduction Anxiety, Sperm and Eggs, Unnatural Selection.

### Introduction

Is there any sentience of what is yet to be? Can one experience the sensation in a new environment taking into account the future beings? When consequences are immediately unseen, what is the sensation of a breach? Is there

sentience in neglecting the generations to come? Can sentience be induced? And, just because one feels it, does it mean that one actually cares enough to do something about it? "I need you baby to warm the lonely night" but can we love actually the offsprings of once speculative fiction with ethics? [1] How powerful is biopolitical aesthetic and how resilient is our consciousness?

### A Crab Hermit and a Mosquito Walk into a Bar

Roughly around May 2019, a video kept resurfacing on various social media: the scene portrayed a Hermit Crab using the plastic head of a discarded doll as her home. Why would a hermit crab trade her own house for one made of plastic? And why a plastic head? In our fantasies we can wonder: Was she left homeless (the sign of a marine real estate crisis?) and this doll's head was the only object she could find? Was this a conscious choice? Was the hermit crab actually ingenious and even artsy, or just desperate? Was this a sign of resilience or of some – twisted – sense of humor?

Commentaries below the video from people ranged from shedding tears for the degradation of nature, to expressions of awe regarding the resilience of the crab. Importantly, most comments reached the same conclusion: humans were the cause of this real estate crisis, and no, the hermit crab was not particularly creative, or playful, or creepy: her amazing degree of adaptation was strictly dictated by utilitarian purposes. The crab was the "unlikely poster child for the serious pollution problem occurring on remote Pacific islands (USA today)." [2]

In a recent science documentary, a handful of mosquitos are shown flying carefree, seemingly enjoying some early evening damp warmth, typical of tropical weather. As the night is about to come soon, it is time for them to feed and mate. This scene does not take place in Africa or Brazil, where these families of mosquitoes are from, but in a controlled environment room in the lab of ecology and genetics at the Polo GGB in Terni (Italy). [3-4] Genetically

modified mosquitoes using CRISPRcas9 technology are produced in London and are shipped to Terni and kept in climate-controlled chambers. Some of them will be left alone through their regular life cycles, while others will be allowed to mate, thus transmitting their mutation onto their sexual partners and turning them sterile. The resulting population of mosquitoes will no longer reproduce and will eventually collapse.

The GMmosquito lives her life at the service of science. But does she know that the source of light is not coming from the sun, but from a sophisticated lamp that simulates the different phases of the day? That her comfortable world is confined to one room? Is she aware of her lethal uniqueness? The mosquito has been vilified for many centuries because of her ability to carry and transmit deadly diseases, which she injects in her victims when she feeds off their blood. But the lab-made GMmosquito somehow belongs to a different species, whose main purpose in life is to (maybe unwillingly?) exterminate her own. [5]

Without diminishing the significance of climate change and the careless patterns of human activity, there is something quite intriguing about these two episodes: in adopting (adapting to) the plastic head as her home, the hermit crab is simultaneously nature and artifice, reality and fiction, it speaks to planetary transformations in the Anthropocene and to unexpected resilience and ingenious behavior. [6-7] We will probably never know if she “decided” to adopt a new home. However, as we take note of her bizarre new appearance, we acknowledge her existence. Despite being born in captivity and not being given the option of picking their own housing, mosquitoes share very similar characteristics with the Hermit crab: they too are both nature and artifice, reality and fiction, and promise to bring unexpected or unintended environmental changes.

Popular culture has spent lots of ink and words to mourn the loss of species and diversity (mostly the pretty animals, like the megafauna), but spent no time talking about how other ugly, abject insects (like the mosquito) should be let die. Thus, rather than mourning the creatures and the (arbitrary) nature that we have lost, one can ask: what is emerging from these (maybe desperate? Maybe deliberate?) acts of adaptations and survivals? [8] What new hybrids can gene drives and other manipulation of organisms for science can be generated? [9]

## Flying On My Own

In terms of evolution, humans and birds are far apart. However, connections between our species and birds have been increasingly explored.

Since ancient times, the human species has somehow been interested in exploring the “potentials” of birds in everyday life. [10] Primarily as a food resource, followed by a variety of uses, from religious rituals to ornamentation.

There are several explanations for this close relationship, such as sharing the same environments or human fascination with colors, shapes, songs, and behaviors (especially

flight) of birds. [11] Recently, a study has shown that possibly the brains of birds and mammals may be connected in regions responsible for certain actions, such as decision-making and sense of direction. [12-13] These results open a “pandora’s box” about our connection with birds, allowing us to question our own evolutionary – past and future – path.

Why are we so connected to the desire to fly? Is this another “missing” link between us? What possibilities open up in the future where the sky is not the limit but that’s where we want to go?

## Embryos on the Lam: Developmental Anatomy Reveals Sentience as a Process Art-Metabolic Interstellar Ethology

From Sentience as Object Relations to Queer Adjectivist Ontology (QAO), this discussion explores the crisis of Descriptive Cathexis and the indeterminacy of consciousness. The origins of bodily anatomy and sensate form in All Organisms Living (AOL) begins with an allegorical review of the nearest non-vertebrate ancestor: Tunicate as sentimental notochordian sessility. Beyond the atrophy of vertebrate origins, there arises a question of consciousness: is all anatomical formation/diversification simply evolution and development towards presumed fitness regimes or is it indeterminate allegory alone that drives anatomical drift? Are mutagenesis and decay simply popular ways out for objects as avoidances of standardizations? If so, then can queer biodiversity be our a-priori: a working yet flexible definition of anatomical exuberance?

In a universe of multifarious signals, synergistic spectra and dissonance divergences... can we explain the mistake of birth as a morass, a knotted remash of piled entropic flesh, a feeling of twitching nervous energies through a lattice work of potentially endlessly looped back and forth segmentation boomerangs that might extend the organism as a stack of eventually repeating asses and heads attached by spines and metametacarpels ad infinitum like a tape-worm or thin ribbon candy? In other words, is the segmented organism just an arbitrary number of segments chosen by fate and chance and later developed into bi-directional wound of pumps and senses? Is that all sentience is? Beyond the anatomical biTransversal symmetry axiswerks, Lulu and Nana represent other axis workers. As the first official transgenic people, born of neoeugenic engineering, Lulu and Nana are being reared as the ugly head of enhancement perfectionism.

New reprogenetic technologies are interceding as stop gap measures to sustain a utilitarian chthulucene. Yet these sci-powered rhetorical orgiastic readings of our engineered mirror-sapiens often miss the differently-abled punctum of the Germline Heritable Transhuman Arts. In this sense, sentimentality is mere propaganda, PR for rationalization in word but not deed, and an atrophy of as the repressed indeterminate nature of blind prophecy. The repressed poetry in motion of forced and branded posthumans and

their GMO human breeders (that is germline engineers as anatomical graffiti artists and inept seers), return and resurface in the eternal money shot of the gene insert during microinjection fertilization. Trait choice and the sensory world of next-gen transgenic semisuperhuman mutant versions is a perceptual and metabolic unknown. But if novel sentience is a question of inbred reproductivity style then the answer is partly in the exploration of novel non human sense organs both synthetic and found as the perceptual and cognitive worlds of our novel transgenic breeds approach an Interstellar Ethology.

### Is it a Boy or a Girl?

At the very moment we enter the world our bodies are defined by gender. It is the first piece of information we ask about a baby – Is it a boy or a girl? Historically, the utmost importance has been placed on this perceived dichotomy. It is the basis of traditional notions of family, politics, culture and medicine, underpinning the patriarchal and normative societies that have for the most part dominated human history.



Figure 1. *In Posse* by Charlotte Jarvis ©Photo: Miha Godec.

In *In Posse* Charlotte Jarvis aims to rewrite this cultural narrative; to use art and science to disrupt the hierarchy as the attempt is to make semen from (“female”) cells. *In Posse* is a Latin term with a literal meaning of ‘before we are born’. It refers to something which is possible, which has potential, but is yet to be called into existence. We are striving for a form of technological, biological and creative activism.

The project is being exhibited throughout its journey as a series of cultural artifacts and rituals belonging to a contemporary reimagining and reenactment of the ancient Greek festival of Thesmophoria – a fertility ceremony in honor of the goddess Demeter and her daughter Persephone. Little is known about the original festival because men were forbidden from seeing or knowing about the rites; the festival was women-only and thus largely undocumented.

Female semen is a starting point for reimagining the Thesmophoria with different groups of women, trans and gender non-binary people: for populating a history without patriarchy and a future in which the gender/genital power balance is redressed. The festival takes the form of a documented ritual, installation and durational performance across multiple sites including the gallery space. The participants build on the scant extant details and rumors about Thesmophoria – the burial of a pig, a seed feast, the use of pine branches, “ritual obscenity”, serpentine and phallic offerings, etc. – and create new collaborative rites and rituals.

*In Posse* seeks to use science and art to undermine traditional notions of patriarchal power and to examine the meaning of gender now and in the future. [14-15]

### Posthuman Artificial Net Embryo Synthesizer

What if an artificial intelligence could help us find our ideal mate? In her artwork *PHANES* Jaden J. A. Hastings has biobanked her eggs in a biobank, has a complete sequence of her whole genome sequence, and, as part of another artwork, the artist programmed an AI to tell her what errors needed correcting in her genome and how to fix it.

Named for the Greek Protogonos, *PHANES* allows anyone to submit their genome for consideration by the algorithm in the form of a Variant Call Format (VCF) file that one can obtain from most direct-to-consumer genetic tests. Based upon its own parameters, the algorithm then produces hypothetical future generations that a pairing with the artist’s eggs might produce. The family tree, according to *PHANES*, reaches into the future, rather than the past.



Figure 2. *PHANES* by Jaden J.A. Hastings ©Kontejner.

This work is intentionally provocative, and made even more so as it is functional (not speculative). Yet, it is proposing a step toward a carbo.silico entanglement that is already in progress—from shifts in matchmaking due to the algorithms behind social media and dating apps, to selection of embryos for IVF—which makes *PHANES* simply another step in the same direction. [16]



## Prenatal Portraits and Keepsake Ultrasounds

The end of the twentieth century witnessed a proliferation of different forms of visual representation of pregnancy in popular culture through diverse media. A once controversial trend of celebrities which proliferated thanks to the expansion of social media and the boom of mobile phones with camera. This interest for the self-documentation of the pregnant body is connected with the understanding of the moment and the massive number of free applications able of image editing the photos captured. [17] It is also associated with the development of the concept of story and the sharing of private moments related with everyday life. Not to surprise the fact that the once niches of pregnancy pornography and lactation fetish have actually become mainstream as the caring mother gained an extra label MILF. [18] In any case this is an interesting turn of the table compared with medical maternity literature which persists on its illustration of pregnancy to partially represent the body of the gestant as if mutilating it was a form of underlying the supremacy of the youngest life forms.

Besides baby bump selfies, there is another type of imaging circulating more intensely on social media. Ultrasound's sharing has been characterized as a form of rite of pregnancy as well as the first picture of the unborn and therefore, we could dare to say, the introduction of the new being into the market statistics as a fresh consumer/consumable. [19] By itself the ultrasound was an imaging technology only directed towards cases of family history with malformations. As the ultrasound became a routine test there is a visible change in the semiotics of its resulting images. Abusively misused by the pro-life narrative as well as by pregnancy termination practices based on gender preferences, ultrasounds are always a source of income to ultrasound clinics. [20-21] If prenatal testing is a support material for breeding sentience amplifying or source of detachment upon disclosure of an unborn's disability, this is a point one may reflect upon. [22-23]

For those of us who have not followed the reproductive path, the breeding sentience is externally perceived, either through medical imaging or through fiction. This is a disembodied voyeuristic kind of self-narrative, with a potential superficial tactile extension if close relatives or friends, who have engaged in pregnancy arrangements, allow the physical contact between our body and the gestant's, i.e. the mediated touch of the unborn. In the artwork of Karolina Żyniewicz's "Synthetic motherhood" the artist combining her DNA sequencing with the samples of ten males creates the visualization of their possible offsprings because as she says: "I am pretty sure I will never be a mother, but I am curious, as probably every woman is, how my offspring could look like." [24]

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**Jaden J. A. Hastings** is an extremophile and CEO of Alpha Space, a mission-led organisation devoted to conducting vital field research that accelerates our ability to support sustainable life on Earth and beyond. An alumna of New York University, Harvard University, and the University of Oxford with advanced degrees in both Biology and Bioinformatics, J.J.’s career in scientific research spans over 15 years at some of the world’s leading research institutions. She is also an internationally-acclaimed artist with an MA in Art & Science from Central Saint Martins and a doctoral degree at the University of Melbourne. In 2017, J.J. founded the x0.lab Initiative a not-for-profit organization that supports mission-based scientific field studies and supporting STEAM education in remote communities. As a University lecturer across multiple fields, J.J. is devoted to fostering curiosity and resilience in her students, which stems from her long-standing roots as a hacker.

**Dalila Honorato**, Ph.D is Tenured Assistant Professor in Aesthetics and Visual Semiotics at the Ionian University, Greece. One of the founding members of the Interactive Arts Lab, where she coordinates the Art & Science Research Group, she is also a collaborator at the Center of Philosophy of Sciences - University of Lisbon. Her research focus is on embodiment, monstrosity, the uncanny and the acrobatic balance between phobia and paraphilia. The starter of the conference "Taboo-Transgression-Transcendence in Art & Science", Dalila Honorato launched together with Marta de Menezes "FEMeeting: Women in Art, Science and Technology". She has been granted a sabbatical leave to develop her art & medicine research project "PARTS: on the agency of surgical leftovers", at RPI (USA), A+C-UNAM (Mexico) and Ectopia Lab (Portugal), in the Spring of 2019, having gynecological tissue and identity as focal points.

**Charlotte Jarvis** is an artist working at the intersection of art and science. Charlotte's practice often utilises living cells and DNA: she has grown her own tumour, recorded music onto DNA, seen her heart beat outside her body and is currently on a quest to make the world’s first female sperm. Charlotte has exhibited her work in eleven international solo shows and over one hundred and fifty group exhibitions featuring large-scale multimedia installations and performances. Charlotte has been resident artist at a number of universities and scientific institutions, including the European Bioinformatics Institute and the Hubrecht Institute. Charlotte’s work has won the Bioart and Design Award in the Netherlands and the Alternate Realities Commission in the UK. She has been peer-review published in Leonardo Journal in the

USA. She is currently a lecturer at The Royal College of Art and Goldsmiths University London.

**Felipe Shibuya** was born in São Paulo, Brazil. He studied Ecology and Nature Conservation at the Federal University of Paraná, where he earned his Ph.D. Currently, he is an M.F.A. candidate in Studio Art at the University at Buffalo, working at the intersection between biology and art. All of his work involves aspects of his own identity, and he always highlights the visibility of nature. His current projects involves the deconstruction of archetypes in species that became poetized by humans (such as hummingbirds), and biovisualization.

**Adam Zaretsky** stages lively, hands-on bioart production labs based on topics such as: foreign species invasion (pure/impure), radical food science (edible/inedible), jazz bioinformatics (code/flesh), tissue culture (undead/semi-alive), transgenic design issues (traits/desires), interactive ethology (person/machine/non-human) and physiology (performance/stress). A former researcher at the MIT department of biology, for the past decade Zaretsky has been teaching an experimental bioart class called VivoArts at: San Francisco State University (SFSU), SymbioticA (UWA), Rensselaer Polytechnic Institute (RPI), University of Leiden’s The Arts and Genomic Centre (TAGC) and with the Waag Society. He has also taught DIY-IGM (Do-It-Yourself Inherited Genetic Modification of the Human Genome) at New York University (NYU) and Carnegie Mellon University (CMU). Dr. Z is currently Media Arts Faculty in the School of Communication and the Arts at Marist College. His art practice focuses on an array of legal, ethical, social and libidinal implications of biotechnological materials and methods with focus on transgenic humans.