Mediated Natures - Speculative Futures and Justice Panel, Parts I and II

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Keywords

Art and ecology, Capitalocene, Ecological justice, Electronic art, Embodiment, Empyre, Feminism, Speculative, Multispecies worlding, Queerness.

Abstract

The Mediated Natures - Speculative Futures and Justice panel (parts I and II) addresses the radical aesthetics of ecological arts practices, multispecies worldings, and possibilities for survival in this epoch many term the Capitalocene. Undoing modernity's binary of culture and nature— which masks the hierarchy of human, subhuman, and nonhuman, and which fuels the engines of capitalism and colonialism —is of critical importance. Thus aligning with nonhuman others in resistance, revolution, and recuperation [1], panelists describe how their projects attempt socio-political acts of worlding through creative arts practices that have ties to new media, feminism, environmental justice, agroecology, science fiction, and/or citizen science. Presentations fuse the political and the aesthetic and decenter the human in the more-than-human Capitalocene. Finally, panelists consider the ways that media, technology, and the speculative further, hinder or redefine one another when encountering nonhuman others.

Introduction

How can mediated natures help us come to terms with justice, solidarity, ethics, survival and radicality in the Capitalocene: the stakes, the costs and the possible futures for different ecologies and the humans that live amongst them? Capitalocene, a central term for this panel, challenges the problematic universalizing framework of the Anthropocene; the term decenters "anthropos" or humanity in general, and centers instead on regimes of power and wealth that exploit human labor and labor beyond-the-human. For Jason Moore and Donna Haraway, the Capitalocene begins in the early modern period, the beginning of the market system, and its resultant colonial violence on (and upheavals of) humans, plants, animals, entire ecologies. Moore recognizes capitalism as an entire way of organizing nature, "a planetary system of power, capital, and nature". Capitalism, to Moore, is a "world-ecology" with a specific history—occurring over the past 500 years—and perhaps, therefore, possible to overcome. [2]

But given that art so often contributes to regimes of capital, is it realistic to think there is potential for our work to contribute to its undoing? Drawing from TJ Demos' ideas for a radical eco-aesthetics that ties eco-arts practices to global issues of class, race, geography, and gender, we must consider strategies—speculative, embodied, mediated—that complicate the art-capital connection and thus recognize the interconnected issues at play in social and ecological practice. [3]

The following panelists address how mediated natures help or hinder multispecies resistance and revolution, and consider modes of speculative study, communication and response with our nonhuman kin.

Our proposal arises out of the October 2017 [-empyre-] listserv discussion entitled *Radical Aesthetics of Multispecies Worlding, Eco-Art, and Solidarity in a More-than-human Capitalocene*, hosted by Margaretha Haughwout, with Grisha Coleman, Meredith Drum and Tyler Fox as discussants. Link: http://lists.cofa.unsw.edu.au/pipermail/empyre/2017-October/date.html

We propose a two-part panel, as many artists are eager to participate.

Part I Discussant Abstracts

Part I will include 15-minute presentations by five discussants. Moderated by Meredith Drum (Arizona State University), discussants include: Elaine Gan (University of Southern California); Heidi Boisvert (New York City College of Technology); Margaretha Haughwout, (Colgate University); Tyler Fox (University of Washington); and Rachel Stevens (Hunter College).

Fig 1. *Mycorrhiza form in encounters between trees, fungi, and brown coal* (Søby Brunkulslejer, Denmark), 2015, Elaine Gan and Anna Tsing, field photograph, © Gan and Tsing.

Elaine Gan

To acknowledge the Anthropocene as a geological epoch marked by human domination and planetary ruin is to put into question the work of art — its subjects, forms, and practices. When individual freedom and creative innovation (keystones of artistic life) fuel environmental degradation, we need ways of sensing, knowing, and living otherwise. This paper calls for attunement to more-than-human worlding, or the entanglements that emerge when species meet. I describe an art-science collaboration that follows fungi in former coal mining beds in Denmark (Fig 1). Histories and temporalities of naturecultures are embodied in the rhizosphere, an underground world of mycorrhizal encounters between fungi, tree roots, and brown coal. Anthropogenic disturbances of war and industry gave rise to the area. But abandoned in the 1970s then privatized, the area is now visibly dominated by fungi and trees. Digging into brown coal overburden, we began tracking and documenting mycorrhiza, the material forms of symbiotic encounters between species that mediate succession. The mycorrhiza reorient our perspectives, demanding that we follow their durations, cycles, senses, and scales, if we are to work with them. Who is mediating whom? Human and nonhuman, individual and collective, local and global are recomposed, queering the ontoepistemological foundations of modernist ethics and politics.

Heidi Boisvert

Heidi Boisvert will examine how biomimicry can be used as an artistic strategy to de-center the human and offer an antidote to the current post-biological technocracy fueled by the alienating forces of our current Cybernetic Renaissance. The various case studies and theoretical argument will attempt to forward an alternative technological paradigm, one which highlights "embodied differentials;" the intricate co-existence of and relationships between bodies, the environment, social contexts, and complex practices that foreground unpredictability, emergence and interdependence in an attempt to resist the predominant fear-based systems of social control, prediction and quantification. She will discuss three collaborative works: *Beware of the Dandelions*, a multi-media performance, that teaches social justice movement building through complex science, speculative fiction and hip hop; *Bioprosthesis*, an interactive installation which sonifies vital processes in trees to attune visitors and care-givers to the needs of organisms within the delicate eco-system of an arboretum; and *Possibilities in Disguise* (work-in-progress), an immersive experience which examines how particle physics behavior parallels epigenetic changes in the biological self through an embodied, bio-adaptive game that suspends the players lived bodies in energy and matter through sonic vibrations and projection mapping inside an architectural recreation of the Large Hadron Collider.

Margaretha Haughwout

Margaretha Haughwout argues that whole systems design strategies, while problematically emerging from the second wave of cybernetics, still might complicate the ease with which capitalism totalizes and thus disregards ecological difference.

Fig 2. *Guerilla Grafters How-to Highlights*, 2017, Margaretha Haughwout, Illustration, © Margaretha Haughwout.

By collapsing the binary between nature and culture, and by routing outputs back into inputs (feedback loops), coalitions including companion species, artists, activists and neighbors can generate sites of abundance that undo regimes of scarcity and of property. These ideas will be developed through a selection of Haughwout's projects, including the *Guerrilla Grafters* (Fig 2), Hayes Valley Farm and *Trees of Tomorrow*, which draw inspiration from whole systems cultivation strategies, but which also resist totalizing views of control that often accompany cybernetics and systems design.

Rachel Stevens

Infrastructure, Waterways and Alien Others: Technologies of Collaboration through Contamination is a research, mapping and video project examining the interstitial zone articulated by man-made infrastructure technologies in the St. Lawrence River at the border between Canada (at Quebec and Ontario), the United States (at New York State) and the Akwesasne / St. Regis Mohawk reservation (which spans the international border). Infrastructure projects such as the St. Lawrence Seaway Eisenhower shipping lock, the Moses-Saunders power dam, the international border itself and local industries (one, now a super-fund site) have altered the landscape and ecology of the region materially, socially, politically and economically. Through archival research, conversations with locals, empirical observation and testimony from the Akwesasne Mohawk, the project seeks to build a perspective on this site that shifts away from the traditional narrative of industrial progress—one that supports globalist and nationalist interests and champions a smooth flow of capital—and toward a tracing of unintentional ecologies, accidental collaborations with 'aliens' and various assemblages and lines of flight including, but not exclusive to, orchid species from other regions that have appeared here, 'invasive' species such as Asian carp, and immigrants, travelers and traffickers moving across and through. What one considers to be contamination is another's productive collaboration (Anna Tsing). The research is conducted in tandem with a

photography collaboration with media artist Gebhard Sengmüller that bares witness to how the land is marked and shaped by these infrastructure projects and the various negotiations that enabled them and that continue to transpire.

Tyler Fox

Tyler Fox will discuss the speculative project *Biolesce*, a series of interactive installations and sculptures featuring the expressive potential of bioluminescent algae. *Pyrocystis fusiformis* is a single-celled, non-motile, ocean-dwelling dinoflagellate that expresses a flash of blue light when physically agitated. Through biosensors (heartbeat sensor, GSR sensor, etc.), motors, and microcontrollers, the work places human and nonhuman embodied experience alongside one another. This shared experience between human and algae is mediated and enabled via technology. In this case, technology enables new a form of mediated experience, but one that is still, to some extent, 'natural.' He argues that technical mediation offers avenues of creative engagement with nonhuman physico-biological phenomena. Fox will discuss these avenues of engagement as a kind of actualized speculation, and will conclude with a discussion of how such activities challenge and reify different forms of anthro- and capitol- centricity.

Part II Discussant Abstracts

Part II will include 15-minute presentations by four discussants. Moderated by Margaretha Haughwout, (Colgate University), discussants include: Cesar & Lois (Universidade Federal do Ceará and Cal State University San Marcos); Grisha Coleman (Arizona State University); Meredith Drum (Arizona State University); and Simone Paterson (Virginia Tech).

Fig 3. *Readout of @HelloFungus twitter feed*, 2017, Cesar & Lois, hacked thermal printer with bot-driven tweets printed on receipt paper roll, © Cesar & Lois.

Cesar & Lois

Cesar & Lois are working with the fungal colonization of human knowledge systems through the merging of fungal networks and Internet-based communications. This has manifested as fungal growth over the text of physical books, with degenerative readouts tweeted by fungi as it grows (Fig 3). In a reversal of typical planetary dynamics, the fungal network overtakes the human system. The cultivation of this project precipitated Cesar & Lois' idea for their current endeavor: the collective development and support of an [ECO]cyrptocurrency. Cesar & Lois posit a nature-based economy, which relies on an autonomous system comprised of typically competing cultures, one culture derived from humanity and the other from nature. In this entirely atypical economic system, the artists strive to work together – across species and across networks. The end result is a "bhiobrid" (bio technology hybrid) blockchain that posits a nature-based cryptocurrency. Cesar & Lois are building the basis for a functional [ECO]nomy and, crucially, working to ground this system in principles that allow one to imagine the potential for a living currency to disrupt current economic models. The artists are experimenting with growing natural networks that can also intersect with the Internet and human-based technological networks in order to rethink the values assignment system advanced in the Capitalocene. This cross-species work has antecedents in LOIS' art projects with human-plant interactions and in Cesar Baio's deviating networks. As artists/theorists and bio enthusiasts the collective wants to involve discussants in the fields of economy, global finance, systems engineering, and cultural theory about the implications of such a hybrid apparatus for inserting nature into economic transactions.

Grisha Coleman

Coleman's talk will focus on her arts-driven research and production project, *echo::system*, a large-scale, ongoing, collaborative framework for examining the intersections of art, environmental sciences, technology, performance, and public engagement. *echo::system* can be framed as a springboard for re-imagining the environment, environmental change, and environmental justice—collaboratively developed with an interdisciplinary team of dancers, musicians, researchers, scientists, architects, and media artists. Coming from the world of dance and live art, and working amongst technologist, this work emphasizes the proposition that the physical intelligence of the body, when explicitly included in an information delivery loop as an interlocutor of presence and experience, can intervene positively in conventional dichotomies of quantitative/qualitative thought.

Meredith Drum

Drum will discuss her *Oyster City Project* (co-created with Rachel Stevens), a collaborative that attends to bioremediation and environmental justice along New York City's shoreline—where more-than-human terrestrial and aquatic systems meet. Mediating nature with both high and low technology, the artists experiment with forms of public and political art while centering on urban citizens' health—

human and nonhuman—above and below the water's surface. *Oyster City AR* (Fig. 4 + 5) is a situated and distributed documentary that evaluates the construction, by NGOs and government organizations alike, of oyster reefs made with the aim to bioremediate NYC's harbor. With a spirit of détournement, the artists built the app using a hi-fi mobile media augmented reality platform (developed by Phoenix Toews), using the tech to reverse the norm, to push through the mobile lens and out to bodies in space, bodies in relation. Recognizing that their app suffered from its dependence on expensive technology, the artists next created the lo-fi, spiral-bound *Fish Stories Community Cookbook* (2015), a collection of recipes, stories, drawing and ecological information contributed by people who live and work in NYC's Lower East Side. The book celebrates the practice of sustenance fishing as a non-binary natureculture entanglement. With these initiatives, the artists add to voices demanding that governments collect larger taxes and fines from polluting industries to pay for environmental cleanup.
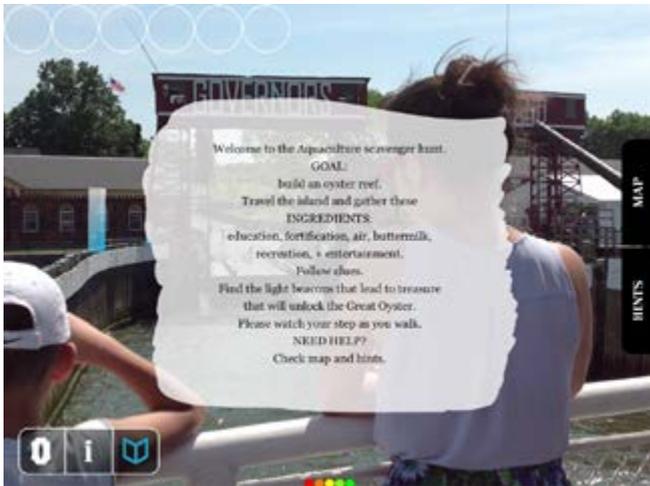
Fig 4. *Oyster City AR*, 2013, Meredith Drum and Rachel Stevens, augmented reality app, © Drum and Stevens.

Simone Paterson

Our ability to die, defines, in part, our humanity. Artificial intelligence or other digital entities have the potential to live forever. These immortal objects/ beings are reliant on technology, so too is the artwork for *disEase*, (Fig 6) a body of work that reminds us of our mortality. We are visually warned of unseen threats to our existence; the microscopic world of pathogens viruses, bacteria, fungi and parasites. Using computerized machine embroidery, the minuscule threats to humanity, and the sometime fatal interaction between animal and humans are visualized. 2D/3D Animation and motion graphics are used to inform the public about the methods of disease transmission. The range of contrasting art-making techniques of needle work and digital imaging is a deliberate strategy to blur boundaries because technologies are more than just tools, they affect who we are and change the way we

think as well as our relationship with others. I am interested in the influence of technology, on bodies and minds, and the possibilities of a transfigured consciousness and an embodied experience via the production and deconstruction of new media art. This method of working could be classified as "post new media" i.e. a collision or coalescence between traditional and new media techniques as well as suggesting a new materiality. Finally, I see the screen as a permeable membrane where ideas flow in and out and through, as a way to corrupt or transcend the limited myth of the "artist" and establish a feminist visual vocabulary as a way to acknowledge the historically unpaid labor of women.

References

1. Deborah Bird Rose, *Reports From a Wild Country: Ethics for Decolonization* (Sidney: University of New South Wales Press, 2004).
2. *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism,* ed. Jason W. Moore (Oakland: PM Press, 2016).
3. T.J. Demos, *Decolonizing Nature: Contemporary Art and the Politics of Ecology.* Berlin (Berlin: Sternberg Press, 2016).

Bibliography

Demos, T.J., *Decolonizing Nature: Contemporary Art and the Politics of Ecology*. Berlin: Sternberg Press, 2016.

Haraway, Donna. *When Species Meet*. Minneapolis: University of Minnesota Press, 2008.

Moore, Jason W., ed. *Anthropocene or Capitalocene? Nature History, and the Crisis of Capitalism*. Oakland: PM Press, 2016.

Rose, Deborah Bird. *Reports from a Wild Country: Ethics for Decolonization.* Sidney: University of New South Wales Press, 2004.

Tsing, Anna. *The Mushroom at the End of the World: On the possibility of life in capitalist ruins.* New Jersey: Princeton University Press, 2015.

Authors' Biographies (Parts I and II)

Cesar & Lois ponder autonomous systems that integrate natural and technological networks. In their various bodies of work, Cesar Baio subverts the algorithms of autonomous systems, while LOIS infuses art with nature's data. Together they create fungal systems that tweet and posit nature-based economies. LOIS co-founder Lucy HG Solomon is assistant professor of media design at Cal State University San Marcos, where she focuses on digital intermediaries of and ensuing interactions with nature. Cesar Baio is a visiting researcher at i-DAT in the U.K. and associate professor at Universidade Federal do Ceará in Brazil. His interests lie in the relationship between art, technology and society. In the construction of interactive object-based experiences, LOIS strives to elicit discordant feelings of reverence and irreverence. Disruptive systems by Cesar Baio and responsive art by LOIS exhibit globally; their @HelloFungus twitter feed was on display at Ravenna Art Museum in Italy last December.

Elaine Gan studies multispecies interactions, particularly in rice agriculture, and how they shape geopolitical histories. She is a Mellon Fellow in Digital Humanities, affiliated with the departments of Anthropology and Media Arts + Practice, at University of Southern California. She has also been a

member and art director of Aarhus University Research on the Anthropocene (AURA) in Denmark since 2013. Past fellowships include the New York Foundation for the Arts, Whitney Museum Independent Study Program, and Lower Manhattan Cultural Council. Recent projects include co-editing an anthology titled *Arts of Living on a Damaged Planet: Ghosts and Monsters of the Anthropocene* (Minnesota Press 2017); convening a seminar series on feral technologies for Haus Kulturen der Welt (HKW Berlin 2016); and co-curating an exhibition titled *DUMP! Multispecies Making and Unmaking* (Kunsthal Aarhus 2015).

Grisha Coleman works as a choreographer and composer in performance and experiential media. Her work explores relationships between our physiological, technological and ecological systems. She currently holds the position of Associate Professor of Movement, Computation and Digital Media in the School of Arts, Media and Engineering, and the School of Dance at Arizona State University. Her recent art and scholarly work, *echo::system*, is a springboard for re-imagining the environment, environmental change, and environmental justice. Coleman is a New York City native with an M.F.A. in Composition and Integrated Media from the California Institute of the Arts. Her work has been recognized nationally and internationally; including a 2012 National Endowment Arts in Media Grant [NEA], the 2014 Mohr Visiting Artist at Stanford University, a fellowship at the STUDIO for Creative Inquiry at Carnegie Mellon University, and grants from the Rockefeller M.A.P Fund, The Surdna Foundation, and The Creative Capital Foundation.

Heidi Boisvert creates groundbreaking games, web interactive, augmented reality and transmedia storytelling experiences for social change, as well as large-scale networked performances in dance and theatre using bio-creative technology. She co-founded XTH, a company creating novel modes of expression through technology and the human body. She has been a Harvestworks Fellow with support by the Rockefeller Foundation whose works have been featured in Kotaku, TIME, Wired, Salon, Fast Company, Washington Post, and the Atlantic, and showcased at EMPAC, Banff New Media Institute, Queens Museum, Kunsthalle and the Waag Society. Heidi received her Ph.D. in Electronic Arts from Rensselaer Polytechnic Institute. She is currently the Director of Emerging Media Technology at New York City College of Technology (CUNY) and a research affiliate at MIT OpenDoc Lab.

Margaretha Haughwout's personal and collaborative artwork explores the intersections between ideas of technology and wilderness, digital networks and the urban commons, cybernetics and whole systems permaculture — in the context of ecological, technological and human survival. Her active collaborations include the *Guerrilla Grafters*: an art/ activist group who graft fruit bearing branches onto non-fruit bearing, ornamental fruit trees, and the *Coastal Reading Group*: consisting of artists from different coasts who trouble the subjects of wilderness, speciation, humanness and ways of knowing through diverse engagements with (non) humans. Haughwout and her collaborators at Hayes Valley Farm, an interim-use urban permaculture farm in downtown

San Francisco, cultivated low input ecological systems and developed a unique lateral governance structure that was able to engage a range of different kinds of human input while still navigating complex politics with city agencies. Haughwout received her MFA from the University of California Santa Cruz.

Fig 5. *The Oyster City Project* studio space in LMCC's Building 110, Governors Island, 2013, Meredith Drum and Rachel Stevens, photograph, © Rachel Stevens.

Meredith Drum is an experimental cinema-maker; in addition to her screen work she collaborates with other visual artists as well as dancers, musicians, architects, writers, urban planners, computer programmers and scientists on location-based public projects, movement research, augmented reality apps and books. As Drum employs electronic media, she turns a critical eye on the commercial world of digital objects and experiences, and critiques these as part of a larger capitalist system that obfuscates pathways of access, connection and resistance. She sets out to re-shape icons and patterns, which typically separate us from other people, animals, plants and landscapes, in order to open more compassionate technical imaginaries. Her work has been supported by grants and residencies from the Lower Manhattan Cultural Council, iLand, the Bronx Museum of the Arts, the Experimental Television Center, Wave Farm, ISSUE Project Room and other institutions. She is an assistant professor at Arizona State University.

Rachel Stevens is an interdisciplinary artist and researcher based in NYC. Her work engages socio-material systems, ecologies, moving images and archives. She was recently invited to participate in the NEH Summer Research Institute on Space, Place and the Humanities at Northeastern University. Other recent projects include a year-long residency with iLAND and, as the collaboration *Oyster City*, a public project commissioned for Paths to Pier 42 in Lower Manhattan. Stevens has presented work at Socrates Sculpture Park, ISEA, i-Docs and Visible Evidence among others. She writes about art and visual culture, is an Associate Editor at *Millennium Film Journal* and belongs to the curatorial collective Two Chairs. She teaches in the Hunter College IMA MFA program in NYC.
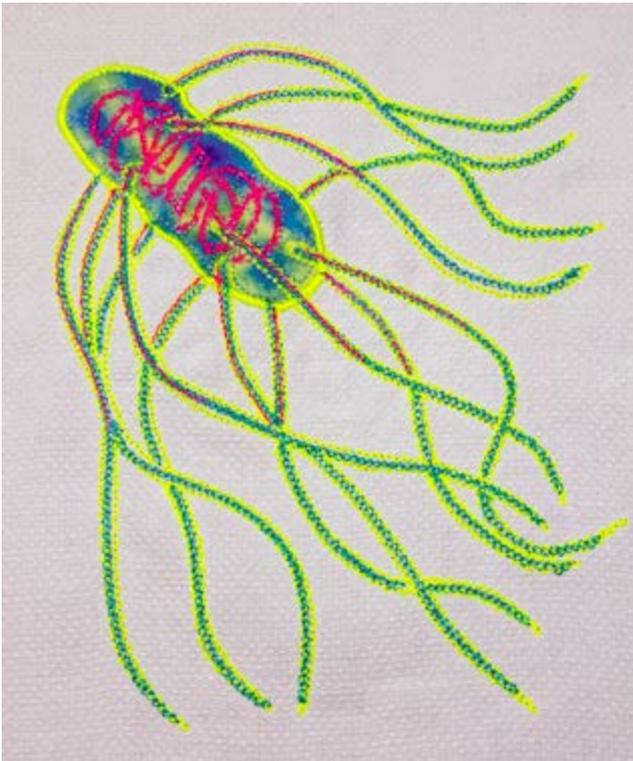
Fig 6. *Salmonella* (detail) 2018, Simone Paterson, computerized machine embroidery on vintage linen, © Simone Peterson.

Simone Paterson is an artist who works at the crossroads of creative technologies and craft. Her current work examines notions of hygiene, and infection via the lens of "women's labor", namely embroidery. As an immigrant living in the "new" Trump America she is concerned with the aesthetic possibilities of technology and also the impact of technology on lived experience. Her installations with diverse applications of technology have been exhibited worldwide, including Artspace, Richmond V.A., and a residency at Art Space, Sydney, Australia. Paterson is a National Member of A.I.R Gallery, Brooklyn, New York. She received her MFA from Sydney College of the Arts, Sydney University, and a Ph.D. from The University of Newcastle, New South Wales, Australia. She is Associate Professor and Chair of Undergraduate Studies in Creative Technologies, the School of Visual Arts, and a member of the Executive Committee of Human Centered Design graduate program at Virginia Tech.

Tyler Fox is an artist, researcher, technologist, and educator. His work focuses on the ways in which nonhuman relations shape our experience of, and relationship to, the surrounding world. He leverages technology to create affectively-rich experiences featuring living, nonhuman organisms. His writing mobilizes philosophy and contemporary theory to consider the aesthetic potential of technology and nonhuman experience. Fox received his MFA from the University of Auckland, and his PhD from the School of Interactive Arts & Technology, at Simon Fraser University. He is a lecturer in Human Centered Design and Engineering at the University of Washington.