

# Distributed Cognition in Ecological/Digital Art

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## Abstract

This essay will consider ecologies of distributed cognition, as represented in a number of recent works of digital art and electronic literature, which themselves reflect upon contemporary environmental crises. The investigation will be framed by the work of theorists including N. Katherine Hayles, Bernard Stiegler, and Timothy Morton in considering ideas of assemblages of cognition distributed between humans, non-human lifeforms, and machines, exteriorized and unthought memory, and environmental hyperobjects. The essay will consider how these concepts can be read through installation artworks and works of digital literature by authors and artists including Phillipe Parreno, Rafael Lorrezo-Hamar, Kobie Nel, Scott Rettberg, Roderick Coover, Johannes Heldén and Håkon Jonson, and David Jhave Johnston. How are digital artworks helping us to think through ecologies of distributed cognition during the contemporary period of planetary crisis in which they operate?

## Assemblages of Distributed Cognition

In her *Unthought* N. Katherine Hayles articulates a relationship between human and non-human cognition that is distributed between three types of actors: human beings engaged in the types of cognitive activity we typically characterize as “thought,” non-human life forms (from whales to micro-organisms to plants) that also clearly engage in acts of individual and distributed cognition, and AI and other forms of machine cognition. She argues that it no longer makes sense to consider human thought as a process that occurs in isolation from the cognitive processes of these other cognizers with

whom humans co-evolve in various forms of symbiotic and sometimes agonistic relation. Human semiotics must encounter bio-semiotics and cyber-semiotics. Hayles describes the position of homo sapiens within this network of cognitive associations as “open to and curious about the interpretative capacities of non-human others, including non-biological life-forms and technical systems; she respects and interacts with material forces, recognizing them as the foundation from which life springs; most of all, she wants to use her capabilities, conscious and unconscious, to preserve, enhance, and evolve the planetary ecology as it continues to transform, grow, and flourish.” [1] This essay will, in part, consider how particular art installations and works of electronic literature represent these cognitive assemblages, which are spread across human and non-human actors.

## An Immersive Ecology of Cognition

Phillipe Parreno’s “Immersion—Exhibition 4,” exhibited at the Gropius-Bau in Berlin during the summer of 2018 is an assemblage of different elements which could be discussed as discrete objects and events but are better understood as a collective whole, an immersive ecology. As I entered the imposing open atrium space of the Gropius-Bau, I felt a strange sense of entering another world with uncanny rhythms of its own. A large rectangular recessed reflecting pool was laid out directly in front of the entrance. The room was quite still aside from some distant music from off in alcoves all around the central space. In the pool at occasional intervals, barely perceptible bursts of water plopped up from beneath, creating reverberating circles in

the water. On the other side of the pool, a large sculptural cluster of triangular sofa sections rotated slowly on a circular turntable before two black steel grids. After a few moments I heard a sudden surge of raw voltage. The grids lit with electricity, and as they charged, an image seemed to flash briefly in arcing bolts of light. As I settled onto the rotating furniture and watched the grids as they charged up again, I saw that this was indeed a kind of picture, imprinted as a retinal afterimage when I closed my eyes: an electric insect, a flickering dragonfly. Throughout the rooms of the exhibition, strange events occurred, organized by some not-immediately-apparent logic. In one room, dozens of polystyrene fish balloons floated in one room, driven by small fans that created shifting air currents. In two other rooms, player pianos occasionally sounded notes. In several of the rooms, automated window shades moved up and down of their own accord.

I encountered a small laboratory enclosed in a plexiglass case in another room, including beakers, scientific measurement equipment, and computers. The exhibition brochure described this as a *bioreactor* “in which micro-organisms multiply, mutate, and adapt to their environment.” Monitored and transcoded, the yeast cultures in the beakers are connected to computers and are in fact the engine “orchestrating the contingent events” elsewhere in the exhibition. The documentation claims that over time “these yeast cultures develop a memory—a collective intelligence—that learns the changing rhythms of the show and evolves to anticipate future variations.” [2] Parreno describes the micro-organisms’ interactions with each other and with the conditions of their environment as “neural circuitry” that “sets a complex non-deterministic, non-linear mise-en-scène in motion through a series of non-periodic cycles.” [2] Parreno’s exhibition is one example of an artwork that effectively communicates the type of cognitive assemblage that Hayles’s theory describes. In the essay I will consider how the sensations that experiences of such an interaction with

artistic embodiments of distributed cognition represented by this and other artworks provide may help us to situate our ecological interaction with other cognizers in our lived experience of everyday life.

## Hyperobjects

Timothy Morton describes hyperobjects as things that are “massively distributed in space and time in relation to humans.” According to Morton a hyperobject “could be the very long-lasting product of direct human manufacture, such as styrofoam or plastic bags, or the sum of all the whirring machinery of capitalism. Hyperobjects, then, are ‘hyper’ in relation to some other entity, whether they are directly manufactured by humans or not.” [3] Hyperobjects pose problems of comprehension for human actors. We cannot see climate change as one entity. We cannot plan effectively in terms of the lifespan of uranium. Reading the concept of hyperobjects through a number of digital artworks and works of electronic literature, I will further situate ecologies of distributed cognition within an environmental crisis that is also a crisis of human comprehension of our situation in the Anthropocene epoch.

## References

1. Katherine Hayles, *Unthought: The Power of the Cognitive Unconscious* (Chicago and London: The U of Chicago P), 40.
2. Phillipe Parreno, *Brochure for Gropius-Bau exhibition* (Berlin: Gropius Bau, 2018).
3. Timothy Morton, *Hyperobjects: Philosophy and Ecology After the End of the World* (Minneapolis: U of Minnesota P, 2013), 224.

## Biography

Scott Rettberg is Professor of Digital Culture in the Department of Linguistic, Literary, and Aesthetic Studies at the University of Bergen, Norway. He is the author or coauthor of numerous works of electronic literature, combinatory poetry, and films including *The Unknown*, *Kind of Blue*, *Implementation*,

*Frequency, The Catastrophe Trilogy, Three Rails Live, Toxi•City, Hearts and Minds: The Interrogations Project* and others. His work has been exhibited online and at art venues such as the Venice Biennale, Inova Gallery, Rom 8, the Chemical Heritage Foundation Museum, Palazzo dell'Arti Napoli and elsewhere. Rettberg is the author of *Electronic Literature* (Polity, 2018), a comprehensive study of the histories and genres of electronic literature.