

## Perceptual Automaton

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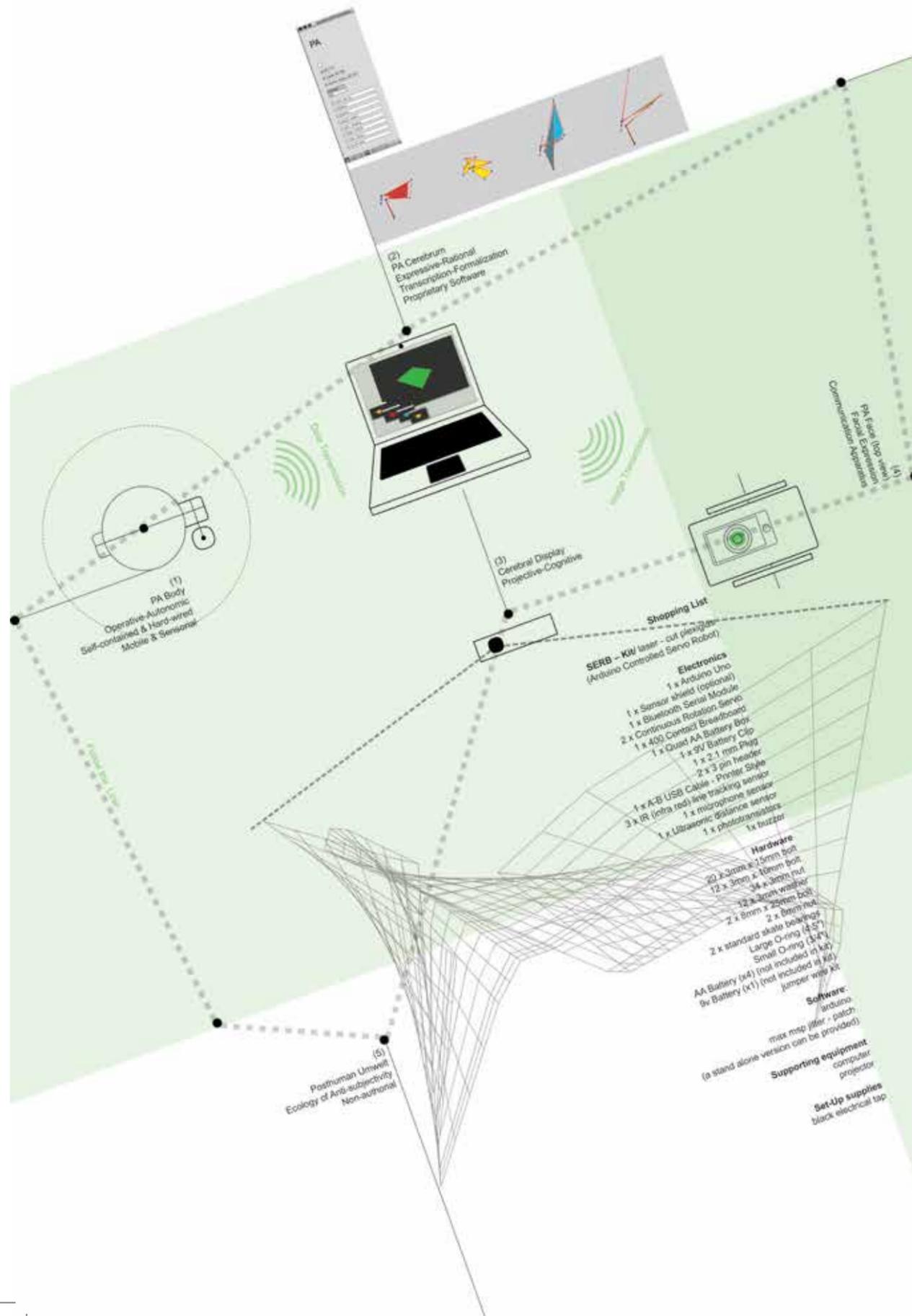
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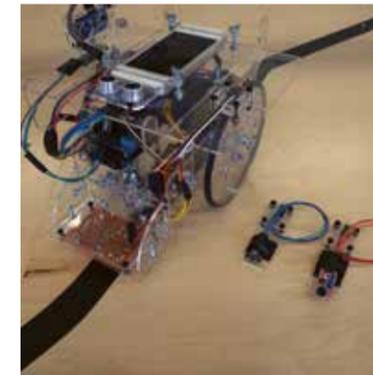


Stefanie Holzheu  
Sang Lee  
Aleatorix

## PERCEPTUAL AUTOMATON

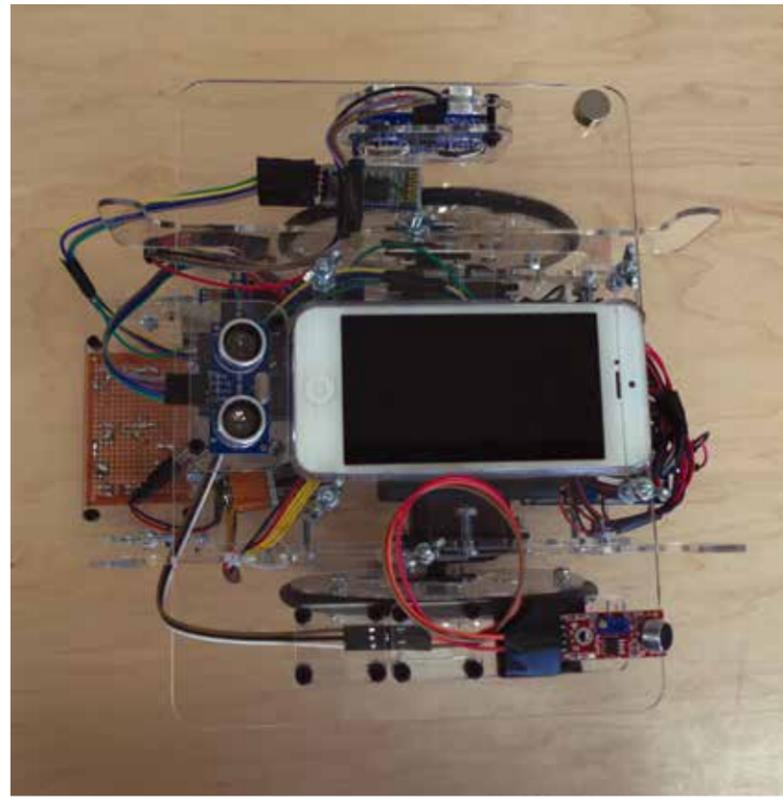
Perceptual Automaton (PA) challenges and disrupts human subjectivity. It attempts to reform architecture that has been for millennia centered on the authority of human subjectivity driven by the whims of architect-personalities. It more crucially interrogates the role of architecture as the material manifestation of human-specific dispositifs and provides a glimpse of posthuman ecology<sup>1</sup> where architecture may transcend the vagaries of human body.

PA consists of two primary modalities: the operative-autonomic and the expressive-rational. The operative-autonomic modality employs standardized and mass-produced parts that are cheap, fast, and out of control. It presents technologized body comprising disparate organs in the age of flexible accumulation<sup>2</sup> and cognitive capitalism<sup>3</sup>. It defines the mechanization of aesthetic experience, of which sole purpose is to pick up and register environmental signals (i.e. sound, light intensity, color, objects in space, etc.). The expressive-rational modality consists of algorithms that transcribe and formalize the environmental signals. It gives shape to the environmental information in geometrical configurations that express a new form of rationalities afforded by the apparatus-dispositif<sup>4</sup>, which does not address any particular needs (especially the teleological ones). The algorithmic transcription of environmental signals indicates a new form of semiotic space<sup>5</sup> that is devoid of human subjectivity as we know it.



During its operation, PA is designed to simply follow a designated line on the floor. The path of PA can be configured in many different ways as long as it is a clearly distinguished black line. During each run cycle PA collects and registers environmental signals in order to autonomously produce geometrical configuration. In its current iteration PA collects sound, light, heat signature, and proximity. Each run cycle results in one geometrical configuration, indicated in four colors for the types of collected signals.

PA challenges human subjectivity in architecture and design by algorithmically transcribing the environmental signals into "pure forms" free of the cultural and enculturating baggage human design inevitably carries. Even though the proprietary software that drives PA is written by humans, the outcome of the algorithm process is never predictable and non-human. Computational ecologies must consist of what can be accomplished above and beyond serving and extending the anthropocentric environment-making, and beyond augmenting human capacities. In the end, what we must ask ourselves is, with all the "computing" power we have at our disposal, why do we always end up with the question, "Do I like this?" Is there anything beyond what we like, or not? Our own autonomic aesthetic sensibilities will spell our doom.

**NOTES**

[1]

Here the notion of posthuman ecology is derived from Jakob von Uexküll's theory of subject-specific "Umwelten" and how they cannot connect with one another despite vital interdependencies. See Jakob von Uexküll, *A Foray into the Worlds of Animals and Humans with a Theory of Meaning*, trans. by Joseph D. O'Neil (Minneapolis: University of Minnesota Press, 2010).

[2]

David Harvey, *The Condition of Postmodernity: An Inquiry into the Conditions of Cultural Change* (Oxford: Blackwell, 1989): 141-172.

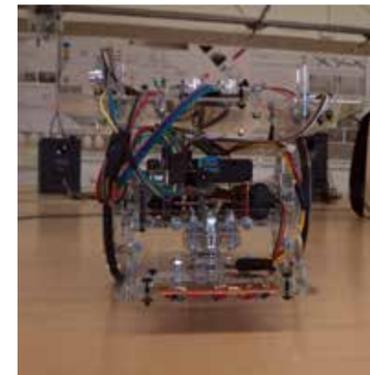
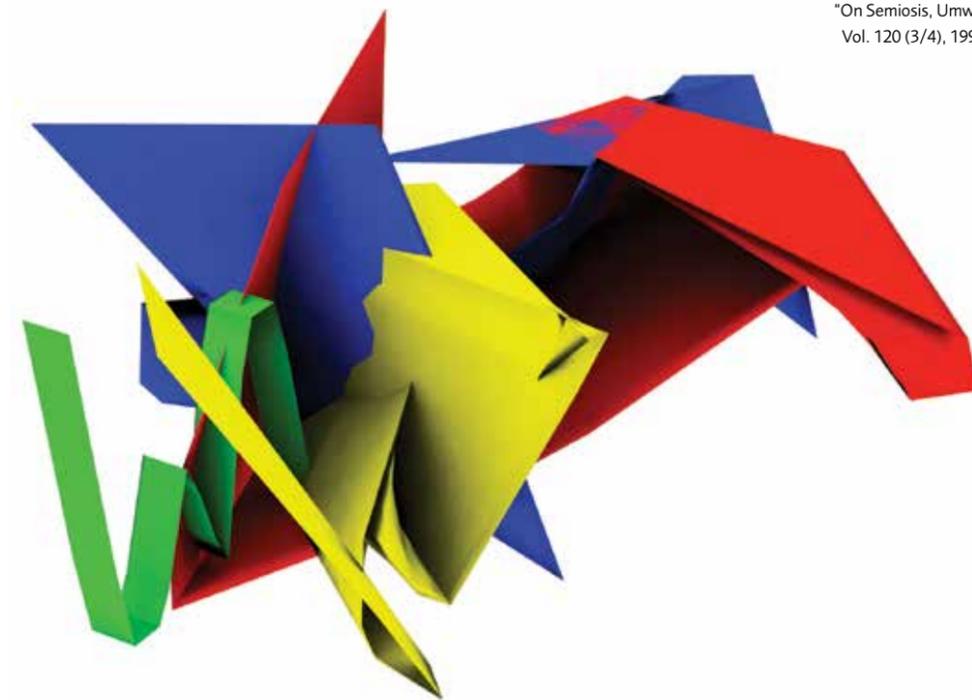
[3]Yann Moulier Boutang, *Cognitive Capitalism* (Malden, MA: Polity Press, 2011).

[4]

Michel Foucault, *Power/Knowledge: Selected Interviews and Other Writings*, ed. Colin Gordon, trans. Colin Gordon et al. (New York: Vintage Books, 1980): 194-195.

[5]

Or "semiosphere". Juri Lotman, "On the Semiosphere," trans. Wilma Clark, *Sign Systems Studies*, Vol. 33 (1), 2005: 205-226. And see also: Kalevi Kull, "On Semiosis, Umwelt, and Semiosphere," *Semiotica*, Vol. 120 (3/4), 1998: 299-310.

**ALEATORIX**

Aleatorix is a multi-disciplinary experimental practice based in Rotterdam and Berlin. It seeks to explore new boundaries of architecture and material environment. The practice explores architecture as a progenitor of new living that includes environmental consciousness as well as technological potentials. The practice includes not only architecture, but also the systems and applications that augment conventional architectural environment and objects. Rather than insisting on the historical autonomy of architecture as discipline, the practice is interested in new relationships "connecting the dots" in a dynamic and innovative way and in the research and development of "con-figurations," rather than isolated independent objects.

**SANG LEE**

Sang is a licensed architect in the State of New York, and a registered architect in the Netherlands. He studied architecture at the Illinois Institute of Technology (B.Arch.Hons.) and at the University of Pennsylvania (M.Arch.). Since 2005, Sang has been teaching architectural design and theory seminars at the Faculty of Architecture and Built Environment, Delft University of Technology, where he is currently Universitair Docent 1. In addition he has served as a visiting faculty and critic and lectured in numerous institutions and universities in the U.S. and Europe. Sang has contributed several articles and chapters to international books, conferences, and journals. He conceived, edited, and produced *The Domestic and the Foreign in Architecture* with co-editor Ruth Baumeister in 2007 and *Aesthetics of Sustainable Architecture* in 2007. He is currently working on a new book, *Architecture in the Age of Apparatus-Centric Culture*.

**STEFANIE HOLZHEU**

Stefanie studied architecture at Bauhaus University Weimar and media architecture at SUNY Buffalo. She is a registered architect in the Netherlands. Stefanie's professional and research interests consist of not only architecture but also the position of technology and media. She is fluent in several multi-media programming languages and sensor-based automata. In 2011 Stefanie contributed a chapter (co-authored with Sang Lee) "Building Envelope as Surface" to the book *Aesthetics of Sustainable Architecture*. She also received the Netherlands Architecture Fund's Start-up Grant in 2012 for her research project "Fiber-Tech."

