Can We Fall in Love with a Machine?

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Mr. Softee Takes Command: morphological soft machines

Beth Coleman

Short History of Mechanical Dolls

Delay is the "difference in time between the arrival of one signal and another." What is enchanting about delay, whether is it engaged mythologically by Narcissus and Echo or prototypically by sound artist King Tubby is that the two signals arriving are the same signal, more or less: as Narcissus has his words repeated back to him or as Tubby layers in the sound studio one tape loop over another. The second signal is not identical (if it were there would be no delay), but it is a replica of the same information delivered within a temporal dissonance. It is time that is the true medium of "delay."

One might say that the same disorientation, the same dizzying, giddy, knee-buckling phenomenon continues to describe our collective experience here in the West with what British mathematician Alan Turing would later call the "imitation game."[1] There was no point at which we did not fall in love with our robots. Even before they were robots proper (which implies an aspect of cybernetic autonomy, a self-organizing engine), there were the eighteenth-century spectacles of mechanical ducks and chess playing dwarves that set crowds on fire with the imitation of life or the beautiful mute automata of fiction.[2] In 1817, T.A. Hoffman, master of the uncanny before the fact of Freud, had already penned *The Sandman*, in which he describes through layered, hysterical prose the cold effect of making love to a puppet.

He sat beside Olimpia, her hand in his own, and declared his love enthusiastically and passionately in words which neither of them understood, neither he nor Olimpia....she sat with her eyes fixed unchangeably upon his, sighing repeatedly, "Ach! Ach! Ach!" Upon this Nathanael would answer, "Oh, you glorious heavenly lady! You ray from the promised paradise of love! (Hoffman).

Now, she is a very good puppet. She has no discernable strings, she has a modicum of will, but she lacks the critical thing that transforms Pinocchio into a boy, or the *cogito* from dream to wakening: Olimpia does not think; she merely repeats, like a dumb machine. The love scene between the protagonist Nathanial and the doll Olimpia is comprised solely of a mechanical clacking. Whether one merely repeats is a crucial aspect of the question Turing poses, "Can machines think?" The first question directly branches into two others. Namely, what is a machine and what is thinking? If one can say that Olimpia is, in effect, a tape recorder, a being without a singularity of affect, then one has arrived midway along the narrative of the inevitable fall of man's elevated state in the discourse of cybernetics - the falling in love with machines. The denouement of the story arrives when a mechanical autonomy enters the picture.

Hoffman wrote on the cusp of revolution. The industrial revolution made manifest in applied mechanical arts the promise of Enlightenment philosophy. Over the four centuries that we have been living with mechanical automata and computerized robotics the robots themselves have had the good grace

to behave like "discrete-state" machines: one can distinguish in the most prosaic way between self and other. As with specters of the Red Menace and fallout shelters, one now finds a nostalgia for the hard metallic shell of Robby the Robot of *Forbidden Planet*. The robots of today are invisible and ingestible. They are characterized by their flexibility, curviness, and cunning - the Google search bots stand in for a figure such as Scheherazade. They spin tales, dissimulate, and procreate with quite a feminine flair. "Mr. Softee is hard on communism" is the tag line that appeared on a popular T-shirt in the late '80s (it was the era of Barbra Kruger and Public Enemy, where sample culture was pubescent and largely unconcerned with copyright). Obviously, Mr. Softee being hard on communism was a joke, blending the iconography of soft-serve with the sloganeering of Cold War kitsch. Why this slogan could be funny was a bit more insidious, but for our purposes today it might be termed as the triumph of software over hard, free market over super structure. To put it another way, Mr. Softee bears the affect of a world taken over by ubiquitous computing.

the Robbie of writer Isaac Asimov's mid-century robotic nanny

Nanotechnology is of course the ideal example of the invisible tele-technological robot. For the moment though, the expressions of this shift in robotics toward a cybernetic ubiquity of computing are best represented in semi-autonomous generative software forms. Search tools such as StumbleUpon and Flickr, attached to various engines, perform random

Mr. Softee, whose origins is as the branded image for soft-serve ice cream, is a figure of the contemporary robot: no exoskeleton, no gears, only the flickering stream of code.

operations within certain scripted boundaries. The first selects variously among Web sites. A pattern of selection emerges as the user gives feedback to the program: one selects "thumbs up" or "thumbs down" in regard to any given site, which then influences the course of the information stream and simultaneously creates a user affiliation group. Flickr collates visual information using meta-tagged data toward a random assortment of data within given parameters http://www.flickr.com/, For example, in a search for the keyword "robot," the photographs sorted by Flickr include a vast array of images. The only rule for inclusion is that each image must be prior labeled by a human agent in order to be located by the application. These applications do not mimic the hierarchical structure of HTML, the mark up language that ruled the search engines of the '90s. What one finds instead is an advancement in a culture of detritus - which is not to say that we are simply sorting trash. Rather that we are stepping further out into a world in which our relationship with machines grow less programmatic (linear, discrete, and predictable) and more open-ended (continues, seamless, and non-linear).

Examples in current use of software, including game modification (Machinima production), all crucially share the aspect of real-time synthesis.[3] Real-time synthesis, the consecutive processing of

signal to output, has become at the same time the common place of telemedia communication and the extraordinary experience of simulacra. The problematic that real-time synthesis suggests or more exactly advances at an accelerated pace, is the substitution of *who* for *what*.[4] As French philosopher Bernard Stiegler suggests, that which has previously described the precinct of the technological *vis à vis* man has been man's pursuit of the inorganic alongside the organic. The shift suggested here is that of the mechanical pursuit of organic behavior. What I will discuss briefly below is the use of Max/MSP in an artwork organized around the concept of generative forms, engaging a real-time computing.

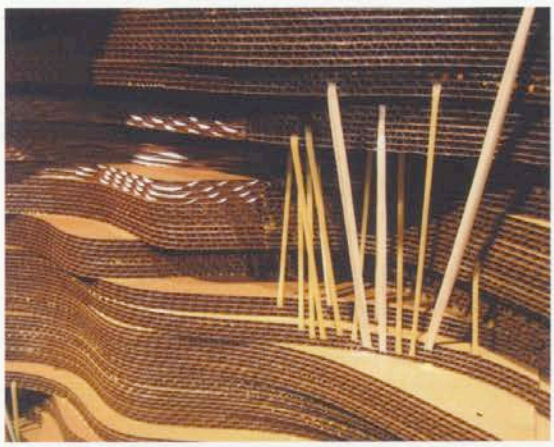
Waken, New Museum 2005: Modeling Generative Aesthetics

Waken. One finds the disruption of the moment between: information trails, activated polymers, vibrations. The equation is set. The outcome is not.[5]

In 1951, Norbert Wiener the American mathematician and founder of cybernetics wrote, "We are not stuff that abides, but patterns that perpetuate themselves." Under the sign of cybernetics, this seemingly poetic statement is also the stuff of hard science. To say that human beings are not only finite beings, which is the condition of humanity, but that we are creatures of patterns speaks to a definition of the "human use of human beings" as that of *variability* itself. The nature of cybernetic machines, Wiener points out, is to continue whether "we" as the self-possessed subject are there or not. In a sense, agency has been redistributed. What one finds in new media is a move away from the mimetic that has defined the boundaries of classical autonomous representation and a move toward the "systemic" as aesthetic.

Waken is a full-room installation, created by myself and Howard Goldkrand, for the New Museum of Contemporary Art, New York City, fall 2005. It is constructed from multimedia that include cardboard, shellac, gold leaf, six-channel surround mix, the audio and design softwares Max/MSP and Rhino, and topographical "map" in the form of digital animation. Upon entry, one sees on the wall *Hive City*, a sculpture derived from the wave forms set in motion. It is woven together with stretchy, fleshly polymers. Above head, one hears a swarm of sound develop, move according to a scripted choreography, and dissipate over the course of a day. On the plasma screens on the wall across from "Hive City" are two plasma screens on which one finds a code map (the Max/MSP patches that run the multi-channel system) and a Maya animation that describes a topology of the piece (a different sort of map). It is a generative sculpture that utilizes 24 speakers that are arranged in six groups of "flower clusters." *Waken* builds across a network of generative signal. The project starts with a fraternal set of algorithms as its impulse by which the audio-visual system is constructed/built.

On account of the particular materiality of sound, the invisible and intangible, and the temporal, one can



Beth Coleman and Howard Goldkrand, Waken, Hive City (detail), 2005

Beth Coleman and Howard Goldkrand, Waken 2 (speaker installation view), 2005

already work in a way that is actually generative within the space and time given for the installation. By this I mean that the activity of the sound being produced robotically in the space is an act of real-time synthesis. The movement of the sound, from speaker to speaker, is run from an algorithm that takes its queue from the honeybee. Once the start button is pushed, then the thing takes on a life of its own within its given terms - some of which are chance operation.

One algorithm set generates the bees in the meadow - the pollinators. This set articulates the rules for the movement/distribution of the sound to the speakers. The other algorithm sets designates the parameters for generative sound modules, the "flowers" and the semi-random synthesis of *Waken* audio samples. It is a closed system, but within its circle of information the variability relies on modes of feedback. As the bee algorithms (there are three) move through the flowers, mathematically speaking, pollen is tipped from the flower and it drops a petal. Once the flower has been emptied of its bounty it dies from the system. After a time (and the piece is designed to develop slowly over 6-8 hours), no more flowers then no more bees: the space returns to null to be rebooted for the next day. There is in addition, a third patch that develops a granular synthesis effect on preprogrammed samples. This third patch is generative in the sense that to effect the signal (delay, flange, etc.) is to communicate and regenerate, as earlier discussed.

The idea is to construct a sonic prairie where diversity, accident, and spontaneous growth happen in sound. The behaviors described are all within the parameters of the "man made," yet, as artists, one starts to doubt the total mastery of knowing what one is making and trust the intuition of making something that is becoming itself. Howard Goldkrand says of the piece, "Daily we are saturated by invisible waves carrying tons of information. Are our lives are impacted by this material. Sometimes it's nice to immerse oneself in the questions of communications and watch our robots grow up."

So now, is it love, our tiny bee bots who might grow up one day to be system generators of their own. "Are there any borders" becomes a pertinent question for us on multiple fronts. The more abstract version might go something like, Is technology in our nature? In regard to the project at hand, we can also ask, How do I define the boarders of behavior for what is produced here? Our algorithms will not turn around and demand a mate created from a similar composite, as did the pitiful and romantic Frankenstein monster. Robot reproduction of this generation would not procreate so commonly. If robots have always been cool (in a vernacular and McLuhan sense of the word), then twenty-first century robot-love is, as the singer Andre 3000 has phrased it, ice cold. There is an experience of "delay" *vis à vis* the "who" and the "what" (the subject and its thing) that, in the extraordinary phenomenon of real-time synthesis, takes the lover out of the picture.

The historical threat of an Olimpia, Pris or ELIZA - any "lifelike" robot since the age of the clock - is that it might simulate humanness. That "it" might replace "one self." Mr. Softee, slyly reproductive and largely elusive, presents an insidious risk. Such replication is not mimetic but generative. In keeping with Stiegler's discussion of real-time synthesis, one can argue that the memento of being, memory, from the beginning of human time has been externalized, i.e. technologized. There is, in the act of externalization, human "delay" to it. At this point in history, ubiquitous computing does not need a human to manufacture delay or to make an artifact of experience. In other words, that which has described the precinct of the technological *vis à vis* man has been man's pursuit of the inorganic alongside the organic. The shift suggested here is that of the machinic pursuit of organic behavior. The question from Norbert Wiener with which we began - how does the subject of continuous change recognize itself - is raised here again under specific parameters where one follows the logical development of cybernetic culture. In the case of ubiquitous computing, it is Wiener's articulation of the human subject as part of a procession of communication that catches our attention today.

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[1] *Turing, A.M. (1950). Computing machinery and intelligence. Mind, 59, 433-460.*

[2] *It did not matter that Vaucanson's duck and the chess-playing "Turk" were both fakes of fakes as opposed to robotic simulation of life. Those particular phenomena were largely legerdemain standing in for robotic substitution, but the demonstration of this very type of confusion served the same purpose.*

[3] *One of the recent points of excitement in Machinima (game-engine based animations) is the phenomenon of dance videos. Players stop the forward progress of game play to make their characters dance. Unlike the music videos of the MTV generation that would create an image for a song, the dance video comes straight from game culture, wedding in game play to music (it is more like "mash-up" DJ culture in its humor and intention). The dancing represents on one level a certain kind of master of the commands that control the character. It also demonstrates purely random action in the game theatre. In-game dancing, which is part of the "modding" of games, has a similar effect as the software described above, but haling from a different direction in agency. Because video games have particular rules of gravity, behavior, etc. to make a character dance is superfluous to game play. While in-game dancing cannot be strictly codified, it has the definite aroma of the victory lap and end-zone dance: people at the top of their game super signifying. Dancing presents an extra-value in the communication economy, one that simultaneously describes a making "human" of game space as the robotics of the program, its real-time factor, are exploited (a kind of meta-communication within game play).*

[4] *On this subject Stiegler states, "...[A]s if technics integrated in itself the delay which seemed until now to constitute the who on the side [à l'écart] of the what...This displacement is what we refer to as real time" (Stiegler, 1996: 77). The distinction he makes is not in regard to a prior absence of technology but toward an understanding of a technology that behaves as a technogensis, a nascent machinic agency.*

[5] *Beth Coleman and Howard Goldkrand, artist's statement.*