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UNHOMELY AT HOME: DWELLING WITH DOMESTIC ROBOTS

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The Timely Unhomely: A Biopolitics of Things

Visual culture theorist W.J.T. Mitchell, writing about artistic experiments in "the age of biocybernetic reproduction," has suggested that "the epithet for our times … is not the modernist saying, 'things fall apart,' but an even more ominous slogan: 'things come alive'" (2005, p. 335). As such, he proposes we acknowledge "that contemporaneity is perhaps even more mysterious to us than the recent or distant past," and adopt a perspective "that would proceed by insisting on the connectedness of all forms of life" (p. 334). Ominous indeed: it is hard to feel entirely at home in a technoscientific milieu in which connecting forms of life has become a routine imperative, yet almost always wrought informatically. It is hard to feel at home, too, when the biological is the privileged site of scrutiny for global politics, where technologies of power extend far beyond the disciplinary strategies of bodily confinement and anatomical decomposition (Foucault 1979, 1990). The tradition of cybernetic theory has ensured that the machine and the animal are equally subject to computational techniques of communication and control, and that the human

use of human beings proceeds as a matter of rapid statistical codification, through the monitoring and regulation of reciprocal messages. [1]

From this tradition, established in the latter years of World War II and the immediate post-war period, came the groundwork for what would become computer science, cognitive science, and artificial intelligence (AI), including robotics and artificial life.[2] In the laboratories that have for the past half-century brought forth robots and other artificial life forms after their kind, where lifelike qualities have daily appeared in the inorganic, any remaining traditional boundaries between animal, human, and machine, obsolesce.

What happens as we begin to realize that *things* are coming *alive* in our very midst, that this conceit is coming to ring true in our everyday lives, at least for those of us on the privileged side of the digital divide? The sequestered labs of industrial engineering firms or technical research institutions like MIT are not the only places where life is springing forth to animate the previously inanimate, conjured through the diligent labour of scientists, designers, and engineers. *Things come alive* has become the rationale behind a growth-industry in redefining domestic appliances and the very functioning of the home itself. Indeed, as advertised on perennial episodes of the Discovery Channel's *Daily Planet* or PBS's *NOVA*, in the fabulous world of (the endlessly deferred) tomorrow, domestic labour recedes ever more into the background, shifting away from embodied experience toward bodies of information. It is especially hard to feel at home when your home begins to feel back, with growing interest in domotics—the technologies of home automation—bringing cybernetic

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[1] I allude here to Norbert Wiener's *Cybernetics; or, Control and Communication in the Animal and the Machine* (1961) and *The Human Use of Human Beings: Cybernetics and Society* (1954). That cybernetics, as a theory of messages, entails an indeterminacy when it comes to definitions of what it means to be "alive" is no more evocatively stated than in the latter:

> Whenever we find a new phenomenon which partakes to some degree of the nature of those which we have already termed "living phenomenon," but does not conform to all the associated aspects which define the term "life," we are faced with the problem whether to enlarge the word "life" so as to include them, or to define it in a more restrictive way so as to exclude them.… Now that certain analogies of behavior are being observed between the machine and the living organism, the problem as to whether the machine is alive or not is, for our purposes, semantic and we are at liberty to answer it one way or the other as best suits our purposes. (Wiener 1954, pp. 31–32)

For Wiener, and for the tradition cybernetic theory which he helped pioneer, life is a matter of bucking the trend of increasing entropy, a tendency toward increasing complexity and organization. Another word for this tendency is *information*.

[2] Hayles (1999) provides an indispensible theoretical history of these developments, as well as an insightful reading of science fiction literature contemporaneous to the developments in this history.

control to the intimacy of everyday familial dwelling. That mysterious feeling known as the uncanny accompanies this newly lively home life, an unhomely sensibility that speaks itself etymologically in the German *unheimlich*.

Insisting on the connectedness of all forms of life as conceptions of life break the final bounds of the "natural" is a discomfiting proposition, and one with serious political import. How do we proceed to theorize a biopolitics that stretches far beyond the human, beyond even the strictly biological, both in the techniques by which it operates and in the subjects it produces? When and where things come alive, how do we admit those things and their lively behaviour into the purview of social and political thought? In what follows, I will interrogate two domestic robots, iRobot's Roomba, the renowned autonomous vacuum cleaner, and Chibi-Robo, Nintendo's latest heroic homunculus, in order to speculate upon our biopolitical present in its noncoincidence with the "just now" of modernity. These robots figure here as limit cases, residing in the borderlands between the organic and inorganic, living and nonliving, the bio-logical and the techno-logical. They are representatives for Mitchell's ominous nonmodern sloganeering. I wish to dwell seriously and imaginatively with the uncanny as a feeling particularly symptomatic of living with modern technology—a timely unhomely that serves as a way to attune us to the imbrication of the politics of life and the politics of things. We may thus come to apprehend that, as technoscientific practice accelerates cultural life to the very limits of its own presence, its own present-ness, modernity may be buckling under the strain of its own structured regime of permanent invention, effectively disinventing itself and its attendant humanism. In the domesticity of these machines is a certain "not-being-at-home" in modern technology that points to moments of breakdown in modernity as such. What emerges from this uncanny thinking is what I will call a "strategic animism," undermining common sensibilities with a mode of thought that we are supposed to have overcome in our modern ascent to the status of Man. Ultimately, this strategic animism will condition a proposal for a revised biopolitical ethics, one that eschews anthropocentrism to take into account the active qualities of technological objects as they animate human cultural and political life.

Overanthropomorphization

Rodney Brooks, director of MIT's Computer Science and Artificial Intelligence Laboratory, and co-founder and chief technology officer of iRobot Inc., locates his research and manufacturing interests within the "fuzzy" boundary between life and nonlife (Menzel and D'Aluisio 2000, pp. 64–65). Turning to

evolutionary history and biological models for inspiration, he places himself within a tradition of errant researchers on "The Quest for an Artificial Creature" (Brooks 2002, pp. 12–31). His philosophy stems in large part from the rhetoric of the burgeoning artificial life (alife) movement, whose mandate is to explore a *synthetic* biology of *possible* life. In the words of alife pioneer Christopher Langton, "we expect the synthetic approach to lead us not only to, but quite often *beyond*, known biological phenomena: beyond *life-as-we-know-it* into the realm of *life-as-it-could-be*" (Langton 1996, p. 40; emphasis in original). Of course, Brooks is quite aware that a life-as-it-could-be produced through our own technical capacity is something met with a good deal of scepticism, if not anxiety. In *Flesh and Machines* (2002), a popularized account of his career, design methodologies, and philosophy, as well as a speculation on the future of robotic engineering and its impact on human societies, Brooks suggests that this anxiety stems from a "logical hangup" we have that delineates too strictly between the animate and the inanimate. We as humans tend to engage an "overanthropomorphization" of ourselves that insists too heavily on human specialness. As such, there is a pressing need to become less rational about the possibility of machinic life as we head toward a future of increasingly intelligent machines participating in our everyday lives (p. 175).

Brooks has devoted a large portion of his career toward domesticating, quite literally, the potentials of artificial life. The contemporary (suburban) home has been the focus of iRobot's mainstream attentions, and seems to represent, for Brooks, an exceptional niche for exploring the boundary zones along which his quest takes place. The admirably successful Roomba vacuum cleaning robot is only the first element in a comprehensive vision of cybernetically enhanced domesticity. The Scooba wet floor scrubber, Dirt Dog shop sweeper, Verro pool-cleaner, Looj gutter router, and ConnectR virtual visitor are consecutive robotic salvos refashioning the domestic "machine for living in" as something, perhaps paradoxically, more organic. The cyborg theory in LeCorbusier's architectural mantra comes to the fore on the backs of artificial creatures.

Published the same year as the first Roomba model became commercially available, *Flesh and Machines* is interesting as a speculative elaboration upon the fantastic future that machine life ostensibly heralds. An important section of the volume depicts a complex system of interacting household robots, beginning with a detailed description of the Roomba prototype Brooks developed at MIT (pp. 117–119). Once switched on, the twelve-inch disc "bumbles" around, cleaning as it goes. It chooses random trajectories, though when it bumps into obstacles it redirects its course to head off in another direction. As it sucks up debris from the floor, a laser sensor in

the suction tube indicates the relative density of the dirt flowing into the machine. If it happens upon a particularly dirty area, it lingers until things are fairly clean before scooting off somewhere else. Its wandering is largely random; the floor becomes clean as a result of the statistical probability of it covering an entire area the longer it is active. If it senses that its batteries are running low, it quits its cleaning duties and heads for a recharging station. Roomba's abilities are clearly not very complex, nor are they meant to be. The robot never knows where it is, nor does it keep track of where it has been. It simply moves about, reacting according to input from the environment to modulate its behaviour, directing, redirecting, and containing its activity. The robot is entirely embedded in its surroundings, in no way relying on a symbolic or representational procedures (i.e., measurement, modeling, map-making). Behaviour emerges as a result of simple, layered interactions with the immediate physical world.

But this machine is only one component in a more elaborate vision. Brooks's imaginings soon include robots he dubs "pucksters": "small, hockey-puck-sized robots with small legs that they use to slowly, slowly drag themselves around" (p. 119). As Roomba bumbles around the house, cleaning the larger, open areas of each room, these smaller machines would get into all the nooks and crannies, along the baseboards and in corners, collecting dust with some sort of electrostatic device and filling their bellies with the detritus. When full, they would linger until they heard the larger vacuum approaching and rush into the middle of the room, whereupon they would dump their payload and crawl a short distance away. The larger species would blindly avoid the pucksters like any other obstacle, and treat the pile of dirt as it would normally.

The (self-proclaimed) fantasy Brooks offers—a fantasy that seems to be coming true as iRobot launches each new product—is that of a household "ecology of robots" (p. 120), in which numerous machines and the relations between them create a network of interactions that, in turn, produce a comprehensive environment in a continual state of modulating behaviour. Soon this fantasy includes robots that clean the kitchen and dining room tables, scrub windowsills, pick up the laundry, get the groceries, do the dishes, and so on. The home thus becomes an extensive ecosystem, an electronic bioreserve. "This is a very organic sort of solution to the housecleaning problem," Brooks writes. "It is not a top-down engineered solution where all contingencies are accounted for and planned around. Rather, the house gets cleaned by an emergent set of behaviors, driven by robots that have no explicit understanding of what is going on" (ibid.).

For Brooks, emergent behaviour means that his robotic creatures are *fast, cheap, and out of control*, as one of his polemical mottoes declares (Brooks 1989). Not quite entirely out of control, however. The creatures' emergent behaviour is closer to what Tiziana Terranova calls a "soft control," which is "concerned with fine tuning the local conditions that allow machines to outperform the designers' specifications, that surprise the designers but spontaneously improve upon them, while also containing their possible space of mutation" (Terranova 2004, p. 119). To be sure, *fast, cheap, and out of control*, is not an advocacy for chaos: "Note carefully that we are not claiming that chaos is a necessary ingredient of intelligent behavior. Indeed, we advocate careful engineering of all the interactions within the system" (Brooks 1991, p. 149). He refers to this as a "conspiracy" on the part of the designers that "allows very simple robots, and therefore very cheap robots, to work together to get a complex task done" (Brooks 2002, p. 120). Soft control is the careful engineering of a design conspiracy that modulates the environment as a whole such that the robots are able to act autonomously while continuing to display "intelligence" in the accomplishments of their tasks. Because it does not require complete knowledge of the system of interactions between creature and world, it guarantees that those interactions remain "robust" and maximally flexible, capable of accommodating the unforeseen.[3] Creatures must produce, to a certain extent, *in excess* of their design, *create* value in and of themselves, beyond what has been invested in the system.

The excessive value created through this nonhuman vitality may be expressed with the autonomist Marxist notion of a "biopower of labour," which Terranova describes as "a power of making and remaking the world through the reinvention of life" (p. 129).[4] Though the potential of this creative labour that the autonomists seek to explore is staunchly anthropocentric, we must argue that Brooks's creatures, as a technical reinvention of life in themselves, certainly speak something to the political stakes involved in engineering

[3] "A creature should be able to maintain multiple goals and, depending on the circumstances it finds itself in, change which particular goals it is actively pursuing; thus it can both adapt to surroundings and capitalize on fortuitous circumstances" (Brooks 1991, p. 145).

[4] See Hardt and Negri (2000), especially the section titled, "Biopolitical Production," in which they argue for the eminently productive dimensions of life in the constitution of imperial power (pp. 22–41). In the course of their argument, life—indeed, the mere biological existing Giorgio Agamben (1998) refers to as "bare" or "naked" life, here inverted from its negative valence as a sort of walking death—becomes the preeminent basis for the sort of autonomous social cooperation they refer to as the multitude. Writing in dialogue with contemporary Italian thought on the biopolitical, Esposito (2008) draws a distinction between a negative, juridical instance of biopolitics, what he calls a politics over life, and a positive, affirmative brand, a politics of life.

nonhuman intelligence. Despite the marketing claims, Roomba and the gang are not about increasing the leisure time of individuals by having more machines to do the work of everyday living. The labour they perform is more productive than that. They reorganize the form-of-life, the *bios*, in the home: remapping the domains of labour, reorganizing the speeds and potentials of the day and of the domestic, adjusting the affective climate within its four walls, and modulating the productive potentials of the household and its occupants. If the household ecology is successful in this reorganization, however, it is because it remains open and reactive to aleatory occurrences, to the overwhelming probability for error, and is thus adaptable in the face of changing environmental conditions.

What Brooks's domestic ecology of robots embodies is the "organized inorganic" life of technical objects, a life neither human nor animal, which nevertheless conditions and animates living: "the pursuit of life by means other than life," as Bernard Stiegler (1998) would say.[5] Robots not only suggest what is human in the machine, but what is machinic in the human, opening an aporia from which the human-in-itself emerges as an expression of its own doubt. It is just this sense of self-doubt that Rodney Brooks wishes to cultivate in his provocative speculations on the future position of robots in human societies. For him, we cling to a "tribal" feeling with regards to our evolutionary position as self-reflexively conscious and emotional beings, nurturing a "deep-seated desire to be special. To be more than mere" (Brooks 2002, p. 174). Promoting the notion that the human body is itself "a machine that acts according to a set of specifiable rules" in its biomolecular composition (p. 173) is part of the (oddly rational) process of becoming less rational about machines and alleviating our anxieties with regard to intelligent machines.

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[5] For Stiegler, the human and human life has precisely to do with the liminality expressed in these formulations:

> The zootechnological relation of the human to matter is a particular case of the relation of the living to its milieu.… *It is organized inorganic matter that transforms itself in time as living matter transforms itself in its interaction with the milieu.* In addition, it becomes the interface through which the human *qua* living matter enters into relation with the milieu. (Stiegler 1998, p. 49; emphasis in original)

> The evolution of the "prosthesis," not itself living, by which the human is nonetheless defined as a living being, constitutes the reality of the human's evolution, as if, with it, the history of life were to continue by means other than life: this is the paradox of a living being characterized in its forms of life by the nonliving—or by the traces that its life leaves in the nonliving. (p. 50)

Brooks suggests that a "leap of faith" will be necessary in order to allow us to accept future robots as conscious and emotional beings themselves: "Such leaps of faith have been necessary to overcome racism and gender discrimination. The same sort of leap will be necessary to overcome our distrust of robots" (p. 175). Though his juxtaposition of an imagined robo-discrimination against struggles for racial and gender equality may trivialize or occlude the latter (to the point where Brooks seems quite naïve about the continuation of those struggles), he is nevertheless compelling in his suggestion that questions of artificial intelligence and artificial life have a serious relevance to contemporary and future-oriented politics. Robots invite us to think about the active role of high technology in a biopolitical ecology of embodied subjects. And when it comes to theorizing nonhumans of all sorts as lively social agents, a leap of faith, an unhomely irrationality, a willingness to be surprised by the animism of things whose life is unknown to us, certainly seems necessary.

Of course, as children of an Enlightened modernity, we are not necessarily very comfortable with faith. Where knowledge and power couple so completely and obviously, it is hard to argue convincingly for a belief in the unknown. It is even more dicey, I think, to enter faith into a discussion of technoscientific advancement, which would get you in trouble both with epistemologists (who would claim that faith has nothing to do with it) as well as with humanists (who might hear an eschatology in the word faith and thus decry your naïve progressivism). This is where I wish to argue for an uncanny thinking, to shake us out of a regime of thought we are far too at home with, and to feel out a nonmodern un/knowledge. The very word "uncanny" suggests a particular relating to knowledge that deserves some comment. The *Oxford English Dictionary* tells us it is derived from an older form of the verb *to know*, related to the Dutch *kunnen* and the German *können*. It was thus at one time used to denote notions of carelessness, mischievousness, or deception—those things that result from the unknown, i.e., ignorance, or its exploitation. During the late eighteenth century, the term was applied more properly to persons, and began to take on connotations of the occult. The sinister figure of the stranger or the outsider, the one nobody *knows*, was evoked in this usage.

It was in the mid-nineteenth century that the term began to take on the sense it carries today. It became common to call "uncanny" those things which are supernatural, arcane, or otherwise mysterious, weird, or strange. It seems telling that the word took on this meaning during the age in which the sciences began to penetrate, in a highly systematic and disciplined manner, the boundaries of life, labour, and language to seize upon the hidden systems of the natural world, including the unconsciousness of Man. As modernity pressed into the fullness of its form, the stakes of epistemological certainty increased,

and the concomitant anxiety of the unknown intensified to breed a form of fear with a particular relevance to the claims of scientific knowledge. To be sure, that the uncanny points to a paradoxical knowledge of the unknown is integral to understanding something of our ontological situation amidst the new and coming technologies of the twenty-first century, as well as to the new models of subjectivity this situation challenges us to imagine.

Of course, Freud's well-known formulation of the uncanny has everything to do with knowledge as well; for him it is "that class of the frightening which leads back to what is known of old and long familiar" (Freud 1960, p. 220). From a psychoanalytic standpoint, the uncanny betrays peculiar cracks in the ego's repressive function; it is a startling encounter with something that has been actively, if unconsciously, un-known. More than this, however, Freud claims that the nature of this encounter is that of a conflict between our rational, modern sensibilities and primitive "residues" left over from an "animistic conception of the universe" (p. 240). He writes that, though we have "surmounted" such animism, "we do not feel quite sure of our new beliefs, and the old ones still exist within us ready to seize upon any confirmation" (p. 247). In the course of our modernization, we have forgotten animism in the interests of less savage beliefs, burying it within a cultural unconscious that nevertheless eagerly haunts our quotidian dwelling.

To be sure, these are thoughts that have their condition in a particular cultural and technological milieu. I am inclined to argue that the invention of modern communications media in the mid-to-late nineteenth through the early twentieth centuries opened ubiquitous conduits to the uncanny. These new technologies realized, in everyday experience, many of the "primitive" beliefs Freud describes throughout his essay, what with machines and automata that acted well beyond human intervention, light from the wall activated by the merest of gestures, voices of the departed courtesy of wax cylinders and shellac discs, sounds extracted from the ether, images of the distant or dead—whether disquietingly still or silently active—brought forth of a lantern, and so on. Not to mention a certain talking cure that purported to alleviate the deleterious effects the power of thoughts themselves could have on one's life.[6] We could

[6] On uncanny effects of modern media and communication in general, see Peters (1998), whose argument revolves around the existential finitude of human life and the ethical necessity of communication for overcoming damaging psychologies of solipsism. Peters's discussion hinges on an erotic dialogue with the dead he indentifies to be the core of all communication practices. Kittler's (1999) analysis of media technologies in *Gramophone, Film, Typewriter*, has resonances with the uncanny, with his poststructural, psychoanalytical approach leading through recurrent discussions of death, haunting, and the externalization and automaticization of the sense organs.

very well say the uncanny is a class of the frightening particularly symptomatic of modernity, at least a modernity that is characterized by machines, media, and a fairly newfound interest in the powers of a language largely autonomous from consciousness and the soul. More correctly, it is symptomatic of the *breakdown* of modern thinking as a solution to the problem of the world.

Our society has since wagered its life and livelihood on the political strategies of increasingly frenetic mediascapes and highly systematic processes of technoscientific invention. Yet the precise workings and interrelations of the high-tech mediations and services we dwell amongst are generally obscure to everyday apprehension. The means by which technological practices and objects affect human capacities for action, the extent to which they work to condition embodied subjectivities—that is, the nature of the power relations established between humans and various technologies, the effects and productions of their interrelating upon our lives and bodies—escape any precise understanding or comprehensive management. And, in our most anxious moments, the recalcitrance of those things supposedly of our own invention, coupled with our own frustrated capacities to penetrate the "black boxes" of their operation, lead us to believe something "known of old and long familiar": that technology has a life of its own. If Foucault could claim that "modern man is an animal whose politics places his existence as a living being in question" (1990, p. 143), the politics descendent from that particular animal's own powers of invention is one that places the existence of technological objects as *nonliving* beings in question as well. The "threshold of modernity" has not only been reached, but thoroughly breached.

This politico-ontological questioning is the essence of strategic animism, by which the dynamic agency of the nonhuman becomes an acceptable object for social and political thought. A synthetic biopolitics and an ethics afforded from an imaginative encounter with various forms of life-as-it-could-be takes the questioned and questionable status of life as a positivity, an affirming uncertainty. The feeling of the uncanny-unhomely and its attendant unknowledge as to what counts as a living, or livable, being, thus becomes an analytical device for reevaluating biopower in terms beyond the strictly human. Our uncanny encounter with unhomely homes bristling with robotic labour and the strategic animism I would like to cultivate thereby are steps toward theorizing a biopolitics of technological living. Indeed, it is to the uncertainty surrounding the mechanisms and processes of life that new techniques of power respond, though no longer strictly in terms of the meticulous decompositions, distributions, and deployments that characterized the sort of power relations Foucault calls "discipline." Uncertainty, surprise, capacities for mutation and escape, are now integral to managing and transforming both human and

nonhuman life in a much more flexible, indeterminate, and seriously playful, manner. But it is also in this uncertainty that new forms of gathering take shape, that new imperatives for belonging arise. We turn, then, to the play of control within the domestic ecology of robotic labour.

A Little Robot Goes a Long Way

> "He will change your life forever!"
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> —Homepage at chibirobo.com/gcn[7]

Particularly strange to my mind as domotic technology enters popular consciousness, are the frequent solicitations to perform, in our playtime, the mundane tasks from which we are promised future alleviation. Amidst the hype of automated homemaking, videogames that simulate domestic labour have surfaced to astonishing success. *The Sims* franchise (2000–2008) is probably the best known and most lucrative example, its publisher, Electronic Arts, having recently announced the sale of 100 million units worldwide.[8] A "people simulator" that takes the form of an interactive dollhouse, *The Sims* and its sequel demand players to micromanage the home-lives of her pixilated avatars, attending to the trivialities of placing trash in the trash can, mowing the lawn, and mopping up any messy puddles made when they neglect their sims' "bladder motive." It seems curious that the things we are loath to do in real life, like picking up after ourselves, are things that many of us now seek to occupy our moments of leisure.

Consider *Chibi-Robo* (2006) for Nintendo's GameCube. Though a rather obscure title compared to *The Sims*, its fictionalized articulation of the domestic and the robotic nevertheless serves to highlight the unhomely biopolitics of technological life we have been exploring thus far. Nintendo of Canada's website describes it like this:

> Chibi Robo is not your typical video game hero. For one thing, he's less than a foot tall. For another, he spends most of his time cleaning up around the house. His main objective is not to recover magical crystals or to overthrow an evil tyrant. For

[7] See http://www.chibi-robo.com/gcn/ (last accessed 17 June 2008).
[8] See http://www.nytimes.com/2008/04/16/arts/television/16sims.html?_r=1&oref=slogin (last accessed 17 June 2008).

> Chibi-Robo, success is simple. His goal? To Spread the Happiness![9]

A birthday gift for eight-year-old Jenny Sanderson, Chibi-Robo's "sole purpose is to bring happiness to Jenny and her family … by picking up trash, scrubbing the floor, smoothing over family drama, and other everyday tasks." The player's job is to take on the role of Chibi and perform these "everyday tasks" while exploring the house and observing the activities of its occupants. In many ways, playing *Chibi Robo* is like experiencing a day in the life of one of Brooks's household robots, though with a diversification of function that reflects the imaginative ends of the sci-fi fantasy in which those technologies participate.

More than a cleaning robot, however, Chibi labours upon every moment and particular of the Sandersons' lives: monitoring their gestures, utterances, and moods; watching and reading the occupants for signs of their needs or desires; anticipating and providing pre-emptive solutions to problems barely even communicated; fulfilling needs they may not even have known they had. This largely entails the workaday matters of picking up after the Sandersons' relational messes. This last aspect gets a much more frank description in a review of the game on IGN.com than on Nintendo's website: "We eventually learn that the Sandersons are financially troubled and worse, completely dysfunctional. Not only is Mr. Sanderson a slob who has money-spending issues [compounded by the fact of recently having lost his job], but the missus has repeatedly kicked him out of the bedroom and often wonders why she ever married him."[10] Little Jenny, for her part, seems to have retreated into an autistic delusion in the face of her parents' emotional discord, dressing up as a frog and communicating only with ribbits.

Chibi becomes something of a household policeman, seeing to the health and happiness of the Sandersons' lives by regulating the social communications network that is their home. Delivering letters between Mr. and Mrs. Sanderson, sitting silently with the latter over a cup of tea as she vents her marital frustrations, returning lost rings to Jenny and allowing her to show you her crayon drawings (this last of which, over the course of the game, turn from obsessive pictures of frogs to pleasant depictions of a happy family): these are the sorts of tasks that make up the game's bulk. The comedic structure of the game's narrative has to do with revitalizing the family from an entropic

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[9] See http://nintendo.ca/cgi-bin/usersite/display_info.cgi?id=2541788&lang= en&pageNum=5 (last accessed 17 June 2008).

[10] See the Chibi-Robo review at http://cube.ign.com/articles/685/685694p1.html (last accessed 17 June 2008).

breakdown, a movement from stasis to happening. We could call this sort of work *affective labour*, after Michael Hardt and Antonio Negri in *Empire*: "This labor is immaterial, even if it is corporeal … in the sense that its products are intangible, a feeling of ease, well-being, satisfaction, excitement, or passion" (Hardt and Negri 2000, pp. 292–293). It is about producing, exchanging, and communicating affect, which must be understood not just in the sense of an emotion, but also in the Spinozian sense of *affectus*, i.e., a capacity for action, power to affect something, to make something happen. Happiness means more than warm feelings; it carries a connotation of overall health—in our example, the health of the Sanderson family. Spreading the happiness is a "caring labour," oriented toward the creation of "social networks, forms of community, biopower" (p. 293). Hardt and Negri locate this production of affect in those particular services that provide (actual or virtual) "human contact," citing health services and the entertainment industry as their primary examples.

However, in singling out "human" contact, Hardt and Negri's description of affective labour falls short of the radical biopolitics I wish to suggest. They explicitly set apart affective labour from computer technologies and "computerizing" processes—a major blind spot, considering the actively productive role that digital machines have come to play in producing social networks and forms of community. This is not simply about computerized mediations between humans, either. By 2000, the year *Empire* was published, research and development was well underway to engineer humanoid robots to interact with humans in socially intelligent and emotional ways, specifically targeted toward the healthcare and entertainment industries. Cog, a slinky-playing, ball-tossing, humanoid robot designed by Rodney Brooks, and Kismet, a curious, blue-eyed, "sociable" robot, built by Brooks's protégé, Cynthia Breazeal, both developed in the mid-to-late 1990s, are just two isolated instances of this broad project.[11] And one should not underestimate the affective labour performed even by the humble Roomba, which, according to its marketing hype, largely has to do with creating more free time at home to spend with friends and family.[12] Creating feelings of ease, well-being, satisfaction, excitement, or passion, doing the work of caring in the interests of overall health—in short, spreading the happiness—is not a strictly anthropocentric affair, as any loving pet owner will tell you. Nor should we limit our imaginative inquiry solely to the organic. This is a biopower whose effects are felt not only in the facilitation of human contact, but also in contact

[11] For an analysis of humanoid sociable robots, with a particular focus on Breazeal's work with Kismet, see Anderson (2006).

[12] During one of the initial revisions of this paper, the home page of iRobot.com read "Mother's Day is May 11th: Give Mom some FREE Time!"

between humans and nonhumans within an informatic social network connecting the lives of people and things.

In order to undertake the task of spreading happiness, the player-as-Chibi must come to understand the house as just such a network. To take but a simple illustration form a point midway through the game: when the player-as-Chibi discovers Mrs. Sanderson in her bedroom lamenting over mounting bills and a missing receipt, the former must draw a connection to the living room where Mr. Sanderson is busy hiding a slip of paper in the couch. Recognizing this significance, the player-as-Chibi must grab the poorly hidden receipt when Mr. Sanderson is sleeping and deliver it to Mrs. Sanderson. Many such observations, operations, and deliveries are necessary in order to succeed in the game. The player needs to undertake something of a systems analysis of the domestic functioning of family life as it takes place within a concrete, architectural structure amidst an interconnected multitude of relational objects, becoming thus a sort of a bio-hacker. She must come to know the house, its occupants, and its things as material elements in this system, nodes in the network. She must acquire new items, abilities, and bits of knowledge in order to eliminate or bypass certain obstacles and increase Chibi's range of access. In the final instance, the player must come to influence the system on a micro level in an image of communication and control suitably tailored for the E+10 set. She must come to understand and tap into the family's collective and individual desires as algorithmic information flows to be controlled and manipulated as she comes to animate a diffuse network of microscopic (rather than panoptic) surveillance, encoding, and modulation. Now you're playing with biopower!

As cute and unassuming as he may be, Chibi is a biopolitical agent within an allegorical vision of what Gilles Deleuze would call a "control society," the game's interactivity necessitating the player to undertake a sort of cybernetic skills training in the dynamics of this new regime (see esp. Deleuze 1995, pp. 169–182). The particular image of control the game represents involves what Terranova calls the "computation of the biological," which she argues is "concerned with the power of the small" (Terranova 2004, p. 103). What *Chibi-Robo* so ingeniously allegorizes is the *micropolitical*, power on the small scale, targeting the tiniest aspects of everyday behaviour, intensifying or blocking flows and fluxes of desire, producing conditions for action, opening or containing highly localized fields of potential on the sub- or pre-individual level for the creation of new modes of being and becoming—in this case, a negentropic production of happiness and familial harmony. Of course, Chibi's diminutive size is a most literal allegorization of something that is not so much

about "size and weight in the metrical sense" as it is about a relativistic immersion in a networked system:

> Smallness is not measured by rulers and scales, but it is exterior and relational: it is described by an overall relation to a large number of variables, with no ultimate determination or central control.… An individual broker within a large and turbulent stock market is as small as a molecule within a turbulent field. What makes the components of an open system small is not their size but the fact that they are grasped in terms of their overall relation to a large number of interchangeable components that interact with each other by way of recursive feedback loops. (ibid.)

This is a system able to handle surprise. In fact, control power relies upon it, since the system's instability and mutability ensure its vitality, allowing new opportunities to arrive at an accelerated pace. The jittery affects that ooze from the anticipation of surprise and the possibility of future error are nevertheless ever active in producing the new.

Interestingly, this could stand as a fitting description for much of contemporary game design, the so-called sand-box genre especially, whose main hook is the immersion of the player in a huge "open world" characterized by freedom of movement, a certain amount of choice when it comes to fulfilling objectives, even opportunities for setting one's own goals. This allows for a certain level of emergence to occur in the gameplay, since its go-anywhere-do-anything design elides the immediate perception of any "overall determination or central control." Arguably, the massive success of such flagship instances of this design tendency as the *Grand Theft Auto* series (2001–2008), *Fable* (2003), and, to some extent, *The Sims*, is attributable to a cultural need for play that entrains individuals to a new regime of power and its attendant forms of social conditioning and competition. The power effects that characterize societies of control do not find expression in the discrete, discontinuous images of spatial, temporal, and behavioural confinement that characterized the majority of videogames until the mid-1990s (think of the planar mobility of the avatar in *PONG* [1972], *Breakout* [1976], or *Space Invaders* [1978]; the restrictive mazes of *Pac Man* [1980]; the right-to-left platform jumping of *Super Mario Brothers* [1986]). Rather, a control society manifests more properly in increasing open-endedness and scale, freedom of movement, intensification of environmental factors, overlapping temporalities, multiplication of narrative threads, diversification of goals, promotion of

competition. In short, the emergence of ordered and organized forms from complex systems of interaction. Appropriately enough, contemporary game design is becoming more do-it-yourself, allowing the player to experiment, to react quickly to unexpected scenarios, to produce innovation as innovation happens.

The turbulent, open-ended system of biological computation described by Terranova and represented in *Chibi-Robo* conditions the "soft" form of control I mentioned above in relation to Brooks's design methodologies. Because soft control is about "fine tuning local conditions" in the promotion of emergent, collective, behaviours, it is necessarily oblique in its function, applying "a minimum amount of force" from the bottom up, as it were (Terranova 2004, p. 119). It should be noted here that Chibi only interacts directly with the Sandersons to gain information, or just to chat; he does not very often act upon them directly, instead performing tasks that, more often than not, go unperceived, *below* perception. The player, locked into the perspective of the small, may amass knowledge of and gain mastery over the system at large as a matter of increased access to its various rooms; however, she never comes to apprehend it in its totality, from a transcendent viewpoint. Her capacity to affect the system will always be immanent, involving the movement and transportation of stores of encoded information in the form of deliverable or usable items. She ties the home's localities and subjects to one another in an ever-more intricate web of tangled, communicative, movements.

Not so much a disciplinary "cog in the machine," the relativistically "small" component of a "gigantic" open network of soft control is much more flexible, autonomous, and mobile: for example, an electrical signal, a remote-control image, a tiny robot, of which Chibi-Robo is all three. The shift from a disciplinary order to one of control is the shift from machining forms of life and turning bodies into informatics, to creating forms of life from machines and conjuring bodies from information flows. It is the difference between, on the one hand, utilizing the materiality of the human body to "mould" the objective possibilities of life, and on the other, operationalizing the transmutational capacities of (digital) communication to "modulate" potentials for animating human life through nonhuman agencies.[13] From fighting the fact that things fall apart to exploiting the feeling that things come alive.

[13] "Confinements are *molds*, different moldings, while controls are a *modulation*, like a self-transmuting molding continually changing from one moment to the next" (Deleuze 1995, pp. 178–179).

Dwelling, Happening, Community: An Ethics of Animate Belonging

> "Life happens in busy homes"
>
> —iRobot company website, "About Roomba"[14]

Courtesy of this deceptively cute, bio-computational agent of micro/soft control, we have traced some rudimentary contours of an un-known and unhomely home life and its uncanny biopolitics. *Chibi-Robo* gives us a glimpse of a domestic setting somewhat more animated than we are perhaps used to, a vision of an imagined future in which life, or something like it, scurries about below our line of sight, influencing subtly the ways in which we dwell. And what is our *de rigueur* response as politically astute, decidedly leftist (some more than others, to be sure) academics conditioned by a centuries-old tradition of humanism? Apprehension, of course. Nervousness. Anxiety. A case of the jitters. Technologies of surveillance and control are not often things we celebrate in our particular social milieu. We are somewhat conditioned to find a politics of fear, exploitation, or oppression whenever we speak about imbrications of technology, power, life, and labour. The word "control" likely does not help matters much. However, theorizing (soft) control as a contemporary mode of power operating alongside, and often in conflict with, Foucauldian discipline has more to do with describing potentialities than making a claim about a new form of domination: "It's not a question of asking whether the old or new system is harsher or more bearable, because there's a conflict in each between the ways they free and enslave us" (Deleuze 1995, p. 178). It is often easy to mistake material processes of subject-formation for violent techniques of subjection and subjugation.

Must we be so cynical? After all, Chibi's sole object is the happiness of those around him. Not that we should be overly ingenuous when faced with promises of pleasure and enjoyment, the ideological staples of late capitalism. However, it remains that happiness has been a privileged object in the philosophy of ethics at least since Aristotle. I would like to resist the urge toward pessimistic debunking as far as possible and choose instead to follow a more imaginative critique that affirms potentialities both ominous and auspicious, entertaining a fruitful uncertainty in the face of the strange contemporaneity this videogame reveals to us. The uncanny may be a class of the frightening, but it gives us an opportunity to shake us of those ways of knowing that we are too at home in, to explore new ways of thinking and new opportunities for living and acting well. Reflecting upon the domotic fantasy of

[14] See http://www.irobot.com/sp.cfm?pageid=122 (last accessed 17 June 2008).

Chibi-Robo in just such an affirmative manner, the unhomely effect we have identified may just lead us in a hopeful direction.

The sort of power that Chibi allegorizes contains positive possibilities, a productive capacity to create new conditions for life and action. In the course of the game's narrative, the little robot transforms the domestic space and the familial relations in the Sanderson household. The house and its inhabitants become something other. Not only this, Chibi's arrival and his explorations are catalysts that convert the "home place … into an event space," as Brian Massumi might say (Massumi 2002, p. 80). The house metamorphoses into an ecology buzzing with a dynamic potential for happenings: a fully animate milieu. To be sure, Chibi is not the only nonhuman in the house who blurs the boundaries between the living the nonliving; animism abounds below the perception of the Sanderson family. When the humans are sleeping or out of the room, the many toys lying around come to life, animals of all sorts speak, and time-travelling aliens arrive, all of whom need Chibi's help in one capacity or another. Household objects take on new functionalities through Chibi's manipulation: a toothbrush becomes a powerful floor scrubber, an upturned mug impenetrable armour, a spoon a shovel. Various costumes acquired in the course of the game allow Chibi to perform new actions and to interact in different ways with the animate denizens of the Sanderson home. Happenings unfold and fold together in emergent fields and sub-fields of potential. As Chibi is able to open up and reach more areas of the house, he realizes his capacity as a communications medium, a movement and connection between humans and nonhumans, subjects and objects, and back again, destroying the strict purity of these terms at their sites of exchange. "The medium of 'communication' … is the interval itself: the moveability of the event, the displacement of change, relationality outside its terms, 'communication' without content, communicability" (Massumi 2002, p. 86).

What is at stake here is ecophilosophical, a questioning of the *oikos*, the home in specific and dwelling in general. Understanding that something akin to what happens in *Chibi-Robo* occurs on a much more complex, oblique, and imperceptible level in our everyday movements within the world is the first step toward understanding how the enfoldings of life and technology allow us to begin to be the individuals we are within a milieu in constant flux. The individuated or differentiated self is a collective event, rupture, or coup, in which we socialize, and are socialized by, our environment as a communicative whole. Communications media, here taken in the widest sense of the term, are, in the first instance, the animators of community, cooperative agents in communicating social relations. They condition modes of gathering, of belonging. What we call the subject and its coherent "identity" is merely the

retroactive, static framework by which we come to grips with a process (always leaking beyond our perceptive capacities) of differentiation occurring as an environmental process.

Control, as a mode of power that not only accepts surprise, but actively produces it, is one of the keys to all this. Massumi tells us that control, if nothing else, "is the powering-up—or powering-away—of potential" (p. 88). It is about cultivating dynamic ecologies of action through redefinitions of life itself. This has involved an explosion of meaningful connections and reconnections between humans, animals, and machines throughout modernity, connections that have become most intense in the present age, where cybernetic methods have allowed us to reflect upon life as something artificial, something synthetic, though to my mind no less hopeful. Life is something made, something derived from things, an assemblage of diverse realities, a process that emerges in the interaction of innumerable techniques that are (and have always been) thoroughly nonhuman. Exploring the potentials in artificial life is about the development of a contingent ethics of animate belonging that takes human subjects as heavily interdependent beings, an ethics that extends a notion of life to include the vital role played by nonhumans in a lively set of happenings from which ostensibly "human" cultures appear.

In the marketing blurb for the Roomba on iRobot's website, the robot manufacturer tells us that "life happens in busy homes." Of course, a commonsense reading of this statement would metonymically emphasize the busy life of the humans inside the home, a life that would find merciful freedom from domestic drudgery through an investiture in the incredible future of domotic technologies. Yet, where things come alive, we are tempted to parse this marketing slogan in a more literal fashion. We find it is the *home* that is busy, animated in its labouring as an environment of interconnected and active *things*. It is the life of the home that happens, that conditions happening. Humans are not the sole authors of the event; they are active partners. To use Bruno Latour's evocatively simplistic terminology, things "happen" to us at the same time that we "happen" to things (Latour 1999, p. 146). With the happening we can begin to describe a causality that is not a dialectic of preexistent terms, but a collective onto-genesis, a beginning-to-be incipient in the relating of diverse entities. From the animated interconnectedness of the home and its occupants, their gathering and belonging together, the human and the nonhuman emerge as mutually constituting actors.

What I am ultimately aiming at is a lesson in learning how not to be Man, as Donna Haraway would put it (Haraway 1991, p. 173). The *anthropos* continues to define the conditions of our dwelling, despite the various critical

efforts to trouble the singularity of his class, sex, race, and, more recently, of his (self-)designation as a species. We continue to place human life far above the life of any other entity on Earth, above the life of the Earth itself. What Rodney Brooks calls overanthropomorphization is the name for an ontological disability that gives us our politics of ecological destruction. We are far too at home with this conception of ourselves, crippled in our capacities for dwelling. Essential to the political struggles of the twenty-first century is a forgotten sense of imagination that apprehends the world as something *we* belong to, one much more lively and active than it is normally taken for—the "we" deployed here referring most pointedly and polemically to those of us concerned with social and political thought, those of us in the humanities and social sciences who seem to be especially unimaginative when it comes to things nonhuman, to the world outside an anthropologic optic, a "we" especially impoverished in comparison to our more sophisticated colleagues in the natural and engineering sciences.

To imagine a domestic setting teeming with the animate activity of the inanimate, is to affirm a feeling of not-being-at-home that could shake us of old humanistic habits and open us to a nonanthropocentric ethics. Such an affirmation may compel us to entertain an uneasy and uncertain kinship with a nonhuman world that seems ever more lively, and encourage us to cultivate a human living that seems ever more nonhuman. Even as our own powers of artifice have ostensibly secured the sovereignty of the human-in-itself over the material world, they have at the same time forged labyrinthine connections between the natural and the cultural, the nonhuman and the human, the animal and the machine, thrusting the human into an uneasy relationship with itself as an indeterminate product of those connections. Such connections render irrational the boundaries between living and non-living, an epistemological uncertainty that seriously troubles the constitution of human subjectivity as any sort of autonomous purity, as a self in possession of itself, apart from a nonhuman world that endows it with vitality. The human is thus revealed itself to be an artificial life form, alive only in the context of an animistic thinking we are no longer quite at home with, but which reaches toward us from an ancient and ruined belief in the world.

As Brooks suggests, it may be a leap of faith that we need, new opportunities to believe. "What we lack most is a belief in the world," Deleuze claims in a discussion of control societies and communications, "we've quite lost the world, it's been taken from us" (Deleuze 1995, p. 176). One might say much the same thing about life, with biopolitical techniques of the past century bent upon the forced selection of viable forms of life at the expense of others, a rationalization of life processes that lost living somewhere along the way.

Belief and faith lead us beyond those thresholds of modernity that privilege the power of knowledge over the potential of the unknown. Brooks's robotic ecology and *Chibi-Robo*'s communicative milieu, then, become new landscapes for an uneasy belief in a lively world where the human is merely one component in a dynamic organization of the organic and inorganic. Our own leap of faith has to do with recovering an un-known knowledge of the liveliness of things, or, if you will, forgetting to forget animistic beliefs. In a world where things come alive, where technoscientific invention makes animism nearly unavoidable, the life of the world rushes forth with a disquieting autonomy. Robots thus become startling representatives of the world as an enchanted artifice. They are the political proponents of a creative, ecological ethics, a "life-as-it-could-be" rather than a "life-as-it-is," in which we understand being happy as equivalent to dwelling well together.

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