Fellow Sorcerers: Rhizomatic Animality in New Media Art

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Abstract

Beginning in the industrial revolution and possibly before, the balance of animal life has tipped away from a state of autonomy to a state of subjection and suffering under the influence of the human. The 'Anthropocene,' a geological era characterized by the complete dominance of mankind, is beset by global climate change and a planet-wide collapse in biodiversity. Yet despite this, the moral and ethical dimensions of this planet-scale disaster have largely been relegated to the margins of contemporary philosophy, particularly in regards to the individual non-human animals that it impacts. It is becoming increasingly unjustifiable for the human to placidly accept the dominant culture of 'carnophallogocentrism,' a version of anthropocentrism that places an emphasis on animal sacrifice, the masculine, and the privileged position of language and rationality.

This essay will argue that the solution to the 'problem of the animal' lies in a Derrida's considered reaction to the animal as a individual, unique point-of-life. This radical individuality must then be couched within performative networks that encompass of the 'becoming-animal' of Deleuze and Guattari, and the embodied cyborgs of Haraway and Hayles. Within this notion of 'rhizomatic animality' lies the significant finding that new media technologies are essential to disrupt the human-animal duality and make possible interactions that could otherwise have never occurred. This process is most capably explored in new media artwork, which harnesses the ability of virtuality, technology and aesthetics to rupture the sense of a sovereign humanist self. After discussing the relevant theorists, this essay will turn to case studies of pieces by five artists that investigate aspects of rhizomatic animality. The success of these artworks in regards to destabilizing anthropocentric thought depends on their willingness to alter the human participant first via the visual sense and secondly via the bodily sense, fitting it into forms that either directly or indirectly recall that of the animal. Only after the human subject has been made sufficiently de-territorialized is she able to accept the elimination of a hierarchy that normally exalts the human, and enter into a reciprocal relationship with her fellow organism.

This essay should ultimately provide an actionable roadmap for the adherent of rhizomatic animality that wishes to engage on a profoundly respectful level with non-human lives. This revised ethical approach will make room for mutual 'ways-out' wherein the human negotiates the latitude of her arrangement with the animal based on the subtly individuated sphere of capacities of each animal, and on an understanding that the negotiation of 'becoming animal' aims at an endpoint that can never be reached.

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1. Introduction

The concept of the 'animal' has consistently and stubbornly maintained its position as a device to perpetuate a vague notion of otherness. The animal has been denigrated to the unthinking, impoverished, instinctual existence of Descartes or Heidegger, or held up as a unassailable peak of savage nobility, as with Nietzsche. In the context of the 'other' the animal may be the owned, servile household pet, the engineered output of industrial agriculture, or the great state animals of myth and heraldry. Animal nature has throughout Western history additionally been ascribed to humans that fall outside whatever largely male, largely white paradigm of normality that existed at the moment, be it other races, religions, or the children or women with which the heroic, humanist subject shared his household. This summary treatment of non-human life amounts to a mere heuristic, a shorthand for an anthropocentric worldview predicated on the dominance of language and rationality. Very rarely do humans engage with the non-human as individual on its own terms, rather than as a predetermined set of species characteristics. As will be argued in this essay, it is an unimaginative system of thought that cannot treat the problem of life with nuance, and fails to recognize that all organisms possess an inherent 'thisness.'

It seems strange that of the 11 million other species *homo sapiens* share the planet with (O'Loughlin, 2009), and the trillions of individual organisms existing at any given time, theory given over to ontological questions of life and existence has largely been focused on a single species on one side, with all other life on the other. However, as Donna Haraway indicates, “The last beachheads of [human] uniqueness have been polluted if not turned into amusement parks” (1991: 152). Self-awareness (Plotnik et al 2006), tool-making (Hunt et al 2001), warfare (Wade 2010), language (Pepperberg 1999) and even dance (Patel et al 2009), once thought to be the sole province of a divinely derived bipedal ape, have with advances in behavioral research been shown to be shared, to varying degrees, with numerous other species. From the perspective of spheres of abilities, the human has an astonishing amount in common with her fellow organisms, be it verbal, abstract language with parrots, or altruistic teamwork with dogs. Even from a purely genetic stance, it is nonsensical to place the bonobo in a similar philosophical category as a house cat or a sea squirt, when according to evolutionary categorization the ape has more in common with *homo sapiens*.

The “question of the animal” (Calarco, 2008: 4) becomes of ever growing importance in a world where nearly all life is already under the direct or indirect influence of human activities. Derrida

agrees with the majority of ecologists and animal rights activists when he writes “no one can deny this event any more, no one can deny the unprecedented proportions of this subjection of the animal” (2002: 119). Clearly the ever increasing growth of humanity has demanded more of the animal, be it in terms of meat, companionship or habitat resources. In the United States alone, more than ten billion cows, pigs, poultry and other food species are slaughtered each year, a number that outstrips the world's total human population (Williams and DeMello, 2007: 73). Even the most remote ecosystems suffer the effects of warming temperatures or acidifying seas, while those most subject to human activities are beset by invasive species, pollution, over-harvesting and so on as to be rendered a basically alien terrain. Indeed, Bill Kibben insists we are living on 'Eaarth,' a planet that is a simulacra of the former Earth but has now become a global playground and municipal dump for a single species (2010).

The widespread impact of human activity is reflected in the ongoing debate as to whether the current geological era should be labeled the 'Anthropocene,' a term coined by the chemist and climate scientist Paul Crutzen. There is some disagreement as to when this new epoch began with the advent of agriculture or with the industrial revolution, or whether it will officially begin in the near future, as anthropogenic impacts on the world's climate become more pronounced (Kolbert, 2010). Regardless of these particulars, it is widely recognized that humans have initiated long-term, irreversible processes that have altered both the geologic and atmospheric records. Perhaps the bleakest aspect of the Anthropocene is a drastic decline in global biodiversity, with a current rate of extinctions currently as high as 100 times the normal background rate. The biologist E.O Wilson provides a staggering estimate that half of all species may disappear by 2100 (Whitty, 2007), resulting in an extinction event on par with the end-Cretaceous asteroid (Eldredge, 2001). Despite this, the moral and ethical dimensions of this planet-scale disaster have largely been relegated to the margins of contemporary philosophy, particularly in regards to the individual non-human animals that it impacts (Calarco, 2008: 1).

The above evidence indicates that the balance of animal life has tipped away from a state of autonomy to a state of subjection and suffering under the influence of the human. Simply put, if no animal can avoid the question of the human, no human should be content to ignore the question of the animal. Clearly, the current approach to dealing with the non-human animal is broken in many respects. The issue then becomes how to discover an ontological common ground between species, one that affords respect for lives not for their similarity to humans, but from outside an anthropocentric perspective entirely.

This essay will argue that the solution lies in a considered reaction to the animal as a individual, unique point-of-life, best described by Derrida. This radical individuality must then be couched within performative networks that encompass of the 'becoming-animal' of Deleuze and Guattari, and the embodied cyborgs of Haraway and Hayles. Within this notion of 'rhizomatic animality' lies the significant finding that technologies are essential to disrupt the human-animal duality, particularly new media technologies that make obvious the network along with transformative embodiment and distributed consciousness. This process is most capably explored in new media artwork, which harnesses the ability of virtuality, technology and aesthetics to rupture the sense of a sovereign humanist self. Therefore, after discussing the relevant theorists, this essay will turn to case studies of artworks that explore some aspect of rhizomatic animality. The success of these pieces in regards to destabilizing anthropocentric thought depends on their willingness to humble the human in terms of the body and of established power dynamics, and the degree to which they are able to deal with a living animal partner on terms of its own choosing. While not presenting a radical departure from past ethical considerations of the animal, this essay should ultimately provide an actionable, repeatable roadmap by which the theorist or artist can interact with the non-human animal on a more profoundly responsive and respectful manner.

2. Literature Review

Humans have been defining themselves for many thousands of years, both practically and philosophically, in opposition to animals. We carry out competing notions of the self on a battlefield largely composed of lives that are not our own. For the purposes of simplicity, this essay will consider the work of Descartes as the type specimen of dualistic thought, especially since his rationalization of the abyss between man and animal has had a lasting influence on Western philosophy. Man, in the case of Descartes, usually does refer specially to white males, as women and minorities have been consistently debased in debates that seek to determine which categories of *homo sapiens* possess the most refined form of awareness. It is not surprising that Descartes and other scholars of his era, who placed a solid divide between the body and the mind or soul, would also insist on a vast gulf between man and animal. During the time of Descartes, it was not widely accepted that animals could possess minds (Calarco, 2004: 24). Indeed, he argued that animals were reactive but non-responsive automata and thus incapable of suffering, at least suffering in the sense of psychological malaise (Singer, 2004: xi). Heidegger continues Descartes' uncritical stance towards the animal, providing a more considered

approach to animal ontology, but nevertheless failing to examine the anthropocentric assumptions that underly his work. He famously wrote that "Apes, too, have organs that can grasp, but they do not have hands. The hand is […] different by an abyss of essence" (1968: 16). Heidegger does not mean that the two are not related in structure, but instead that animals are fundamentally incapable of labeling, sorting and somehow 'owning' their experience of the world and thus of having a 'hand' in a conceptual sense. The abyssal rupture between the human and the instinctually-regulated animal, according to Heidegger, is greater than that between the animal and a rock (1993: 29). While man is 'world-forming,' creating the universe of his lived environment, the animal is 'poor in world,' deprived of the richness of human experience (Heidegger, 1980: 17). Continental philosophy of this bent assumes that access to truth, consciousness, and a sense of being in the world is restricted only to those creatures that can categorize their existence by applying a linear, language based system of reason. Derrida labels this phenomenon 'carnophallogocentrism' (Calarco, 2008: 131), with its emphasis on the masculine, the linguistic, and the acceptance of flesh given in actual or metaphorical sacrifice.

The insistence that non-human life is somehow lacking in fundamental requirements for a fully realized selfhood can, to a large extent, be attributed to ignorance. Just as science no longer expects geese to be born from barnacles, it seems a similarly medieval attitude to insist that animals cannot suffer, and are totally cut off from the full complement of all other human emotions. Indeed, not only has science seen fit to prove that animals can indeed experience pain, but that higher-order mammals can experience the sort of existential suffering that can cripple even 'instinctual' behavior, such as an adult chimpanzee who died of despair after the death of his mother (Bloom, 1997), or the infant monkeys subjected to Harry Harlow's 'pit of despair' (Williams and DeMello, 2007: 73).

However, it is not sufficient solely to recognize animals' ability to suffer and then protect them from such a fate via moral law. To approach the animal as a sort of suffering agent alone is to frustrate the expression of its personhood to the same extent as do the cages in an industrial husbandry operation. This has been the tactic of animal rights activists since Jeremy Bentham, but it succeeds only in fitting the animal into a human-shaped judicial slot. To elevate the animal to the level of the human is a form of anthropocentrism, and to debase the human is merely an oppositional reaction to anthropocentric humanism. The goal then is not to redefine the animal and the human along existing hierarchies, but to discover a new stance from which to approach the problem of the living organism. The following theorists, writing in response to the crisis of the liberal humanist subject and the gradual dissolution of the postmodern identity as defined by Bruno Latour (2003), take on the task of providing

a competing, more holistic approach to the social milieu of the self, both animal and human.

In *A Thousand Plateaus* Giles Deleuze and Felix Guattari describe 'becoming-animal' (1988: 87) a key concept necessary to re-imagining animality and dispensing with the logocentric, anthropocentric subject of humanist Cartesian thought. 'Becoming-animal' is a replacement for categorical subjectivity, for it hinges not on a goal or point, but on a process. The authors describe this as distinctly different from "appearing, being, equaling , or producing" (1988: 88), all of which are states that suggest an end and a definite product, and which are better applied to an earlier Heideggerian rupture between humans and all other organisms. Delueze and Guattari's notion is summarized by the statement "The wolf is not fundamentally a characteristic or a certain number of characteristics; it is a wolfing" (1988: 89). The wolf is a swarm and population of potentialities, embodying modes that contaminate and overlap with other wolves, its prey, and its environment. Deleuze and Guattari are careful to indicate that this is not necessarily a scientific description of an ecology, rather that such 'deterritorializations' (1988: 96) are unnatural at a basic level. The concept of deterritorialization in *A Thousand Plateaus* refers to the *detournement* of the subject by removing it from all "categorical determination [...] or pre-given determination" (Urpet, 2004: 105).

The 'ing' of any animal, be it a wolfing, a ratting, or a humaning, is by definition a process that implicates other lives, deaths, and actions within a plane of potentialities. "The rat and the man are in no way the same thing, but Being expresses them both in a single meaning in a language that is no longer that of words, in an affectability that is no longer that of subjects. *Unnatural participation.*" (1988: 93). This process is not unique to the animal. It equally serves to destabilize human sexual, social and linguistically normative states (Aloi, 2007: 2). As Leonard Lawlor writes, this de-centering of the subject is not destructive as it instead opens ruptures into new ontological states where the individual is freed from the shackles of immutable identity (2008: 184). The human can then escape what the authors describe as the "shame of being a man" (Deleuze and Guattari, 1991: 107). The classical notion of the human is oppressive because it permits so little latitude, and because the human, in particular the male human, is by definition a creature governed by language, code, and other systems that enforce a rational structure of meaning.

Animal-becoming is emphatically not imitation. Well before Deleuze and Guattari, painter Franz Marc appears to have cautioned against such superficial resemblance in his essay "How Does a Horse See the World" (1920)*:*

> Does it make any reasonable or artistic sense to paint the doe as it appears on our retina....It's the doe that feels, therefore the landscape must be "doe-like".... I could paint a picture called *The Doe*...I also may want to paint a picture called *The Doe Feels*. How infinitely more subtle must the painter's sensitivity be in order to paint that! (1920: 178).

Far in advance of the postmodern notion of becoming-animal Marc recognized that imitation of surface forms ignores the affective truth of a living subject, and that truth must be approached as a process of fleeting sensory and positional states. The assumption that animal body and its mental capacities can be precisely mimicked must be strenuously avoided. As shown in the case of 'grizzly man' Timothy Treadwell, a sentimental view of all animals as desiring or capable of connection with humans, and the belief that a human can impersonate a species to no consequence, lead eventually to the end state of being-bear via predation and ingestion (Herzog, 2005).

Animal becoming, although real, cannot be measured in any normal sense. Its success can be judged by the traces it leaves behind on the conceptual arena, in other words, whether the 'becoming' individual leaves behind a record, ideation, or some form of a recipe for successful Deleuzean sorcery. Leonard Lawlor (2008: 181) notes that the transformational individual "exhibits a profound empathy with the whole world […] [Where] the character's hyperbolic love would infect, like a rat, everyone with the feverish thought of the rat's agony." While a borderline spiritual love may not be the exact point of Deleuze and Guattari, the work of primatologist Barbara Smuts provides some guidance for undergoing an animal becoming. Deleuze and Guattari's version of animality, while usually treated as a theoretical device, is in her work potentially translated into the empirical realm of behavioral research (Brown, 2007: 263). Smuts, although working with considerably less dangerous and more naturally social animals than Treadwell, was careful to maintain a position of an 'anomalous individual' (Brown, 2007: 270) among the baboon troop while simultaneously engaging in parallel behaviors that enabled her to approach an eerily accurate and intuitive grasp of the troop's decisions and activities. She offers some insight into the intensity of animal-becoming, writing that "I could not attribute this awareness to anything I saw, or heard, or smelled; I just knew [...] I had gone from thinking about the world analytically to experiencing the world directly and intuitively" (Smuts, 2001: 299). Smuts casts asides her scientific objectivity to interpenetrate between the human and baboon networks. The baboon's entreaties to participate in troop life, their evident frustration when Smuts initially ignored them, and their eventual adaptation to her as a creature dwelling in the borderlands between baboon-and-not

shows that to some degree they underwent a becoming-human. The Deleuzean human does not address the 'molar other' and its predefined suite of characteristics, but instead salutes its partner as space of capacities.

Bruno Latour's Actor-Network-Theory (ANT) is a more tangible complement to the organismal rhizomes of Deleuze and Guattari. Latour seeks to move beyond traditional sociology, which treats the social as some sort of ineffable motivating force behind human decisions. ANT, by contrast, is a potentially quantifiable approach to studying networks involving humans and objects as symmetrical nodes, where the meaning and importance of an actor is not pre-determined but can simultaneously acquire complimentary or contentious meanings based on context. The actor-network is defined by a constant state of flux; indeed, a network as such cannot exist if the associations between its hubs cease to flow. An actor-network is composed of intermediaries and mediators, with an intermediary defined as an actor that is a one-to-one conversion mechanism for a social input. Mediators, on the other hand, "transform, translate, distort, and modify the meaning or the elements they are supposed to carry" (Latour, 2005: 39). Whether an animal is a simple intermediary or assumes the role of a mediator in its interactions with humans is one of the key distinctions between Cartesian thought and the theorists considered here.

ANT can be considered a tool that attempts cope with the shifting ground of the postmodern era and the postmodern self, which Latour terms a second or 'reflexive' modernity (2003: 36). This is a society-wide shift characterized by disillusionment with the infallibility of science and academic expertise, and a growing awareness of the blurring of social, technological, and personal identities. Referring to a similar concept by Ulrich Beck, Latour writes

> "'reflexive' does not signal an increase in mastery and consciousness, but only a heightened awareness that mastery is impossible and that control over actions is now seen as a complete modernist fiction [...] a perfect translation of 'risk' is the word *network* [...] referring to whatever deviates from the straight path of reason and of control to trace a labyrinth, a maze of unexpected associations between heterogeneous elements" (2003: 36).

Searching for evidence of a reflexive society, Latour asks if "the difference between nature and society [is] breaking down" (2003:43). He demands proof that objects and subjects become quasi-objects and quasi-subjects, fuzzy entities with no clear borders, leaking and melting into the other.

Such proof, at least in a theoretical sense, is furnished by Haraway and Deleuze. To Latour, postmodernity replaces matters of settled fact with matters of affair, characterized by a permanent state of argument and indecision. Latour's conclusion is not strictly germane here, but rather it is his concept of a society-wide dissolution of boundaries that applies to the relative positions of humans and non-human animals.

Latour's belief in the symmetrical importance of living actors and inanimate objects finds a related notion in Donna Haraway's *"*Cyborg Manifesto*"* (1991). In this essay, Haraway crafts a notion of the cyborg that at its core has much in common with the 'becoming-animal' of Deleuze and with the relational networks of Latour, for her philosophy identifies life as a series of impermanent ontological conditions. All three theorists take aim at the Oedipal tree of hierarchy and reform it into the scattered nodes of the rhizome. To Haraway, this chimeric entity is "a cybernetic organism, a hybrid of machine and organism [...] creatures simultaneously animal and machine, who populate worlds ambiguously natural and crafted" (1991: 150). She shares Deleuze and Guattari's enthusiasm for the cyborg organism as a type of herd-like assemblage. Her quip that "One is too few, but two are too many" (1991: 177) perfectly describes the disutility of the integrated humanist self set against the opposing 'other.' The cyborg is an indeterminate number of transformations, rather than a constant number of diametrically defined persons. The Haraway cyborg is predicated on a rejection of the humanist values of logocentrism, binary gender identification, and rigid separations between nature and civilization, and between the mind and the body. She asserts that the categorical distinctions between human and animal have become so vague that to maintain otherwise would constitute an abuse of reason (1991: 153), a position that recalls Latour's description of reflexive modernity's 'quasi-objects' (Latour, 2003: 36). To borrow an idea from Anna Munster, the cyborg can be thought of as the equivalent of the pre-modern cabinet of wonders where meaning unfolds into a tangible space through disordered resonances and non-Linnean classification schemes (2006: 77).

Nonetheless, Haraway differs in several significant aspects from Deleuze and Guattari. 'Becoming-animal' is a sort of heroic position to which the human must strive, one that the authors link specifically to writing and other creative pursuits (Lawlor, 2008: 3). For Haraway, there is a sense that humans and animals alike are already the subjects of distributed minds and leaky ontological boundaries, whether they choose to be or not. As well, Deleuze and Guattari lump 'becoming-animal' under a broad rubric of 'becoming-minoritarian' (1987: 117). Haraway has no such need to treat the transformed human as the product of a downward movement. In fact, her cyborg is so proudly defiant

it is clear that to her these entities are stronger than the hackneyed carnophallogocentric forces they have made trivial. Her work is emphatically political and significantly more egalitarian, placing the human-animal-machine within a level, equilateral triangle, with none of the condescension or delirious uplifting seen in the French philosophers' vision of human metamorphosis.

As well, despite Deleuze and Guattari's assertion that becoming-animal is a tangible process, and Haraway's insistence that the cyborg is at least partly fictional, the cyborg seems to emerge as a more real entity if only because Haraway does not shy from engaging with palpable, biological animality. This idea is underscored in Haraway's explorations of the relationships between human and non-human animals in *When Species Meet*, which deals with historical human-animal mutuality, as well as with interactions involving individual, named creatures. *When Species Meet* is vehemently critical of Deleuze and Guattari, particularly in regards to their discussion of 'wolfing' (1988: 89). Haraway rejects the idea of this fantastical pack as "a symptomatic morass for how not to take earthly animals – wild or domestic – seriously" (2007: 29). Haraway reserves her strongest scorn for *Thousand Plateaus'* mockery of the image of an elderly woman doting on a lapdog: "Despite the keen competition, I am not sure I can find in the philosophy a clearer display of misogyny, fear of aging, incuriosity about animals, and horror at the ordinariness of the flesh" (2007: 30). This terror of the fleshly body is what most neatly separates Deleuze and Guattari from the other theorists considered here, and hampers the applicability of their work to actual organisms. In contrast, Haraway's cyborg does not exclude anything except for exclusivity itself, and happily absorbs behavioral science, social relationships, and technology into a body with a foot on each side of the virtual-real divide.

N. Katherine Hayles supports the work of Haraway but examines in greater depth the forms the mind and body take within real and virtual realms. In *How We Became Posthuman,* Hayles argues that the mind and the body are one and the same of an irreducible physical whole, and that is it deeply inaccurate to present information as divorced from its form (1999: 81). She distinguishes the 'body' from 'embodiment,' the former being an abstract ideal, with the latter being the culturally, temporally and biologically specific individual, a concept in keeping with Derrida's notion of the radically individuated organism. In "Flesh and Metal" she builds on her previous arguments, positing that a mere return to the primacy of embodiment is not sufficient where humans are intricately bound within technological and social networks. Within such dense networks, the mind-body unit is secondary to the performative relationships from which it originates. Cognition, in her view, is "a systemic activity distributed throughout the environment and actuated by a variety of actors, only some of which are

human" (Hayles, 2002: 303). This notion of a social world is almost an exact mirror of Latour's actor-networks. While no doubt the 'extended mind' is as old as humanity, or even as old as social organisms, only recently have humans' cognitive machinery become so inextricably inter-rooted with thinking machines, in addition to simpler technologies and other organic minds.

If the body and mind are in fact facets of the same embodiment, and if consciousness is spread like a web over the environment, it therefore stands to reason that the physical body is not the limit of the self. To Hayles, a person's embodiment is instead a porous membrane capable of the absorption, exchange, and excretion of physical matter and as well as social information. This is perhaps the greatest difference between *How We Became Posthuman* and "Flesh and Metal*,"* for while the earlier work bounds the body within specific parameters, the 2002 essay recognizes that embodied personhood, a beautifully flexible concept, does not suffer from diffusion. Consciousness is an emergent phenomenon that arises only from interrelationships. This relational, interactive definition of the self is in the same family of thought of as Haraway's social cyborg, and is more distantly related to Delueze and Guattari's human-becoming-animal. Anna Munster offers a practical sense of the multiplicity endemic to Hayle's type of embodiment, particularly in regards to digital environments. For the permeable mind-body, media technology "displaces and destabilizes temporal and spatial habitual experience *yet continues to work with and transform our embodied selves*" (Munster, 2006: 99). Haraway argues that Hayles' definition of proprioception, a term for the body's sense of its location and movement in space, is an actionable phenomenon and not merely theoretical. The virtual realm, where the individual experiences no conflict between the physical and phantasmal body, can be understood as a tool that makes visible the existence of the distributed self.

Hayles makes an important point that discrediting the narrowly defined humanist subject does not necessarily mean that the 'posthuman' becomes enslaved or subsumed within an unfeeling, impersonal ecology. The networked self is not the equivalent of an organism living in an amoral natural environment. For the posthuman or, as the case may be, the postanimal, "Agency still exists, but [...] it becomes a distributed function […] Consciousness for the posthuman ceases to be seen as the seat of identity and becomes instead an epiphenomenon, a late evolutionary add-on whose principal function is to narrate just-so stories that often have little to do with what is actually happening." (Hayles, 2002: 319). That consciousness is an epiphenomenon has precedent in the biological world. Even brainless slime molds display similar decision-making strategies as do humans and other higher-order organisms (Latty and Beekman, 2010). However, the crisis of the traditional subject should not

lead to a second-wave dualism where the autonomous body is regarded as an anchor to a limited reality, and where the transhumanist fantasies of technological prosthetics and the uploaded mind supplant physical embodiment. Rather, this rupture in Western philosophy must be seized as an opportunity to understand how the mind-body exists as a performative space of potentialities within the world (Hayles, 2002: 320). The true divide is therefore the opposition of a 'myself,' an owned self that is sovereign and the only truly trustworthy or empirically provable consciousness within the world, against the posthuman 'ourself' that does not pre-exist actor-network relations, but is instead composed solely from them.

Jacques Derrida offers a necessary corollary to the diffuse, cyborg, and performative animals of Hayles, Haraway and Deleuze. While the above philosophers are intent on the destruction of the subject, or at least on proving that the humanist subject designates a false notion of the underlying structures of life, Derrida posits an idea of radical individuality. He would strongly disagree with Hayles' argument that consciousness is secondary to other processes that order the self. At the center of *The Animal That Therefore I Am* is a revelatory moment when Derrida becomes aware of his pet cat gazing upon him nude in the bathroom. He writes that

> It is true that I identify it as a male or female cat. But even before that identification, I see it as *this* irreplaceable living being […] where it can encounter me, see me, even see me naked. Nothing can ever take away from me the certainty that what we have here as an existence that refuses to be conceptualized (1997: 116).

The 'thisness' of the cat constitutes a feeling of certainty rather than a concept, and as such Derrida recognizes it is distinctly difficult to corral within language (Calarco, 2008: 124). Unlike Peter Singer's utilitarian ethics (Catts and Zurr, 2004: 4), which recognizes the value of life only in terms of its capacity to suffer, Derrida's position seems to be pointing in the direction of Tom Regan's sanctity-of-life principle, that recognizes each 'subject of a life' as valuable not for its utility but for its essence (Regan, 243: 2004). Derrida nonetheless accepts Heidegger's abyssal ruptures between humanity and animality, but offers the distinction that "there are many limits. There is not one opposition between man and non-man; there are, between different organizational structures of the living being, many fractures, heterogeneities, differential structures" (Derrida and Roudinesco, 2001: 66). Derrida's more thoughtful approach to the 'problem of the animal' is better termed the 'problem of the individual,'

which examines how to appropriately negotiate the gaps that exist between the 'me' and 'you' of any species. Where Hayles, Haraway and Deleuze see rhizomes, Derrida discerns islands of unambiguous specificity.

It is this concept of 'plural singularity' (Calarco, 2008: 144) that Derrida leverages to justify a political approach to animal existence. He discusses how the global operations that produce billions of animals in order to kill them arose out of the Cartesian discourse of hegemony and mastery, which was then repeated nearly verbatim by the likes of Heidegger (Derrida and Roudinesco, 2001: 65). In classical thought, non-humans are capable only of reacting as automatons, leading to the inevitable outcome of a carnophallogocentric system. When "rationality becomes the absolute norm of all evaluation, that which is without reason can only be devoid of value [...] from here, technoscience could unabashedly and unreservedly wage a veritable campaign of violence against animals" (Derrida 2002: 150). Language and reason, in Derrida's view, are special human powers that have been ill-used to blind compassion rather than to foster it. Animal rights philosopher Carol Gigliotti shares this dim opinion of science's treatment of the animal, denouncing the use of animals even in artworks that seek to problematize research science and the food industry (2009: 7). Where Haraway envisions an alternative role for technology as force to recast the human and animal, Gigliotti and Derrida see only the cause of and justification for a 'genocide' (Derrida, 2002: 120).

Haraway, as she does with Deleuze and Guattari, criticizes Derrida's contradictory stance. Even after such fiery words Derrida cannot bring himself to advocate a complete boycott of animal products, suggesting instead a return of the food animal to a state as closely as possible resembling the organic conditions of the small farm. (Derrida and Roudinesco, 2001: 68). As a perpetual defender of the household animal, Haraway has special contempt for Derrida using his pet as a philosophical departure point, and then passing up a chance to consider the individual cat at the center of that gaze. "[W]ith his cat," she writes, "Derrida failed a simple obligation of companion species; he did not become curious about what the cat might actually be doing, thinking, or perhaps making available to him in looking back at him that morning" (2007: 20). Derrida waves aside those who treat animals as mythological or abstract, who observe without reciprocity, or who view animals as capable only of reaction and not response (2002: 115), yet he is guilty of these crimes himself. The elevated position of the expert looking down on the animal is evidenced by the fact that Derrida's politics are animated mainly by pity. Surely his return to Bentham's famous question "Can they suffer?" (1823: 236) is an important moral consideration, but Haraway in her mischievous manner wonders "But how much more promise is in the

question, Can animals play?" (2007: 22). Perhaps what is of greatest concern is not the extent to which animals can be our partners in the depths of physical and psychological misery, but the manner by which we can experience alongside one another joy, play, and other states that necessarily require a more equal relationship. Derrida, despite his laudable compassion, cannot completely escape the confines of a tradition that uses man, or the philosopher, as the measure of all things.

As has been confirmed through the work of the theorists discussed above, outdated definitions of the human and animal should no longer be thought of as exact measures of anything. The earth can no longer be treated as a mere staging ground for vastly separate realms animal communities and human activities. Rather, in a sort of techno-reworking of the Gaia hypothesis (Lovelock and Margulis, 1974), these theorists conceive of living organisms as operating within vast, metamorphic networks that have little concern for linguistically-bounded categories. The once strict boundaries of modernity erode into dynamic amalgamations of humans, non-humans, and technologies. The human and the non-human animal both exist within the 'body without organs' of Deleuze and Guattari (1988: 40), a space of existences that are physically and conceptually contaminated, amorphous, and inchoate. Within this space individual persons still exist, for each point-of-life undergoes a set of processes unique to itself alone at a given time. It is here that Latour's actor-networks reconcile Derrida's islands of selfhood with the messy de-territories of Haraway and Deleuze. Much like the *Armillaria* fungus that covers square miles in underground networks (Volk, 2002), or the shaking aspen colony linked together through system of roots that has persisted for a million years (Grant, 1993), this type of life is defined by a slippery balance between the individual and the swarm, where technology is inextricably interwoven within social communities.

Verena Conley concisely phrases the question that arises from the ruin of the human-animal dichotomy, writing that "Another third term – or another metaphysics – is needed to reinstate belief in the world. It will have to be based on a novel understanding of relations between humans, animals, and nature that goes *through* technologies" (2004: 163). The evidence presented by the theorists and scientists considered here presents a tantalizing solution to this problem. In keeping with Deleuze and Guattari's championing of the rhizome against the hierarchy, this new, chimeric form of life that Conley seeks will be referred to as rhizomatic animality, with 'animality' implying an action or movement that is applicable to humans and animals alike. In order to make explicit the rift between the Cartesian conception of the animal and the notion of animality refined from the above writers, a chart may be useful to compare the differences between the two:

Animal	Rhizomatic Animality
Hierarchy	Network
Dualism	Materialism
Mind over body	Mind as body
Being	Becoming
Stability	Flow
Static	Nomadic
Chronological	Simultaneous
Reaction	Response
Classification	Cyborg
Analogy	Influence
Organization	Assemblage
'Whatness'	'Thisness'
Abstracted life	Radical individuality

3. The Living Animal in Contemporary Art

After laying the theoretical base for why "the question of the living and of the living animal [...] [is] the important and decisive question" (Derrida, 2002: 402), it necessary to explore the appropriate means to address techno-rhizomatic animality. What approaches have the power required to shock the Cartesian, carnophallogocentric thinker out of a complacency towards the accepted hierarchy of life? Science can lay claim to a multitude of truths, but it would be unfair to ask it to issue proclamations on ethical considerations or on ontological states that are by definition volatile and unpredictable. Humane-treatment legislation and the animal rights movement can provide some guidance; however, the majority of efforts on this front still accept the dominant anthropocentric assumptions about the applicability of human law outside of our species. Most animal rights activists seek to elevate the animal to the level of the human without questioning why the human should be considered the pinnacle of personhood, or why there should be an aspirational pinnacle at all.

In the case of the organism bound within an actor-network, art is left to assume the trickster role. As in the old zen analogy, art is trusted with laughing at those who gaze at the finger pointing at the moon instead of upon the moon itself. It is an appropriate task, for both art and animality behave as mechanisms of the 'other.' Baker writes of Delueuze and Guattari's recognition of this similarity, saying that "Art's work – moving the human away from anthropocentric meaning and subjective identity- is presented as much the same thing as the animal's work" (2000: 74). The relevant art in this context should not be that which advocates the unchallenged gaze of the human upon the animal; there already exists an embarrassment of riches from centuries of artistic examination of the animal through a one-way glass. In order to encourage an integration into the perpetual metamorphosis of the living

network, the artist must implicate the animal partner in the act of creation, and when possible the animal must in turn implicate the human. This is not to say that a fully democratic relationship is attainable or even desirable. Instead both partners are recognized as "fellow sorcerers" of different but overlapping fields of potentiality (Deleuze and Guattari, 1988: 90).

Art that was seriously intended to be created with and for animals, not merely on, about or composed of animals, appears to have begun in earnest during the late 1960s. In 1969 Janis Kounellis tethered twelve horses in the L'Attico Gallery for a now frequently re-staged performance piece *Untitled (12 Horses),* which raised "with singular force the question of how art handles the relation of animals and meaning" (Baker, 2000: 79). This spectacular attempt to create art that could not be commodified generated heated critical discussion and prepared a fertile plot for much of the living and Bioart that came afterwards. Bonnie Sherk staged *Public Lunch* in 1971, where the artist ate her meals in a cage next to the lion house in the San Francisco Zoo, her lunch coinciding with the feeding time for the cats (Fuller, 2007). Joseph Beuys' action piece *I Like America and America Likes Me* (1974) is a particularly influential entry into the area of animal-artist collaboration. In this piece, the artist lived in a gallery for three days with a coyote as companion, partner in destroying Beuys' iconic felt blankets, and as an ostensible symbol of a native or outlaw America (Tate Modern, 2005). More recently, Paul Perry's *Predator Mark (*1995) installed a timed mechanism in a park in the Netherlands that released a spray of North American bobcat urine, reordering the scents commonly encountered by the native Dutch wildlife. Kira O'Reilly echoes Beuys in *Falling Asleep with a Pig* (2009), where she co-habited a gallery for 36 hours with a potbellied pig, inviting an identification between slumbering woman and sow. Mark Dion is particularly well know for his 'libraries,' a series of works dedicated to the birds of a city and often containing the zebra finches ubiquitous to artworks with living animals (Dion, 1993). Various other bioartists, including George Gessert (West, 2003) and partners Catts and Zurr (2004) have used living tissue cultures to express issues of hybridization that manifest at a microscopic level. The work of artists such as Damien Hirst, who commissions custom-slaughtered animals, is outside the ethical reach of this essay. In some ways his piece *This Little Piggy Went to Market, This Little Piggy Stayed at Home* (1996) engages critically with industrial slaughterhouse practices (Baker, 2000: 85) and with Derrida's "plural of animals heard in the singular" (Derrida, 2002: 125). Nevertheless, using an animal as a material alone, as a site upon which to enact art is the very definition of carnophallogocentrism, and so is in clear opposition to Deleuze, Derrida, and Haraway.

Although it may not be the artists' intention, works that consist of the human audience and artist

on one side of the conceptual abyss, with the animal on the other, too easily invites comparison by which one party emerges as the better. These dualistic notions must be discarded in light of Latour's re-modernized world peopled by hazy boundaries and the dissolution of the humanist subject. Therefore, a third entity is necessarily to disrupt the binary artifact of Descartes and give rise to the cyborg system that Haraway so persuasively endorses. The conclusion that can be drawn from this is that technology, whether by video, robotics, or wireless communications, acts as a vital and symmetrical node within the living network. From a practical level, new media technology extends the reach of consciousness far beyond where it could probe with technologies that predate the digital eta, and enables interactions and arisings otherwise impossible through incompatible bodies and abilities, or through understandable fear at encountering the unrestrained predator or uninvited human. Without technology acting as a mediator in the sense of Latour's actor-networks, there can be no firm break with previous traditions that dominated animals and constrained humans, reducing both to marginal ontological states with little consideration of either science or more holistic philosophies.

4. Case Studies

4. 1. Crittercams, Nestboxes and *Animal Perspectives*

Understanding how a creature quite literally sees its surroundings should be considered a primary step to bridging the divide between the *umwelt* of the human and animal subject. It is a hopeless task to attempt to shake off the layers of carnophallogocentric thought without even an elementary attempt to understand that human senses do not constitute a pinnacle of perception. As Nagel writes, "...there is something that it is to *be* that organism..." (1974: 435) and it is the task of the theorist and the artist to attempt to broach this subjective experience. In the case of vision, the most simple knowledge of the visual field radically alters our understanding of what an animal is experiencing as it seemingly looks straight ahead. For instance, most grazing animals have a 360 degree field of vision and so more alert to motion in the periphery than a predator, such as the human, with binocular vision. Photography from an animal's point of view is nothing new: the first pigeon-mounted miniature camera was invented in 1907 for use in aerial spying (Hildebrant, 1910). However, with the successful deployment of the lightweight, waterproof and sea turtle-mounted Crittercam in 1986 (Crittercam Chronicles, 2009) recent efforts have drastically expanded the point-of-view video from the perspective of an animal subject. Sam Easterson, a video artist based in California, utilizes recording technology to mediate human observation of otherwise unobservable animal activities. In

Easterson's *Animal, Vegetable, Video* series the artist attaches small, specially designed cameras to an eclectic group of animals. An American alligator cruises along the water surface of a marsh; an armadillo jogs along and snuffles in a bush, or a scorpion moves through a landscape rendered abstract by the extremely close viewpoint. His most ambitious project*, Where the Buffalo Roam* (2001) involved outfitting an entire herd of buffalo with helmet-mounted cameras and displaying their individual feeds in a gallery setting complete with nine taxidermied bison wearing the video apparatus (Creative Capital, 2010). The video segments available online are less than a minute long, although presumably, the video in a gallery setting is not truncated, with the footage lasting as long as the camera did until the buffalo dislodged it (Walton, 2010).

Through his work, Easterson attempts to replicate the experience of motion and vision from the vantage point of another, non-human body. Watching the flicking of ears betrays some element of the animal's attentions and thought processes, while listening to panting and sniffing provides an intimate account of exertion or investigatory behavior. The rolling of the tiny camera gives some sense of what it must be like to be propelled on four legs or two wings. From this point of view, the creature's behavior becomes, if not rational, then at least significantly more familiar and explicable to a human audience. Easterson's goal is clearly to inspire fellow-feeling, indicating in an interview that "because it's so immersive, [the audience] will have an innate connection to it" (Katsnelson, 2010). Rather than seeing this as a work of empathy, the more appropriate word to use in this case may be sympathy. Easterson's work inspires sympathy not in the sense of pity, but in the word's original Greek meaning as a 'with feeling,' which more accurately addresses the Deluezian notion of resonance than does the 'in feeling' of empathy. It is possible draw a comparison between the sympathy inspired by point-of-view technology and the sympathetic strings on certain musical instruments, which vibrate without contact as a compliment to the plucked string. *Animal, Vegetable, Video* seems to indicate that a more complete trans-species understanding is to some extent possible by evoking embodiment through the visual sense alone, even when no other face-to-snout encounter occurs. Rather paradoxically, in Easterson's work the physical presence of the observer must be removed.

In addition to his video work, Easterson curates a collection of animal-borne imaging in the clumsily designed website *Museum of Animal Perspectives* (2009). No doubt the aesthetics of the site are intentional, as the focus here is not on the curator but on the animals and the material they unwittingly provide. Although the site is currently only a few months old, the artist's goal is to eventually create an encyclopedic resource of remotely captured videos as sort of zoo created by the

animals themselves. As with many endeavors involving wildlife observation, the line between art and science is indistinct, with much of the collection of nest-box recordings, camera traps, and crittercams satisfy both aesthetic and research goals. The unmoderated aspects of the footage is underscored through the almost exclusive use of videos embedded from Youtube, the majority made by amateurs or from unedited field research. Much of human awareness of animals is heavily filtered through the interpretation of other humans, be it by documentarians or industry marketers. In *MAP* the viewer undergoes a moderate de-centering of the anthropocentric self to witness creatures functioning capably outside of the artificially imposed narratives of nature programs, or outside of the imbalanced power relationships enforced over pets, livestock and wild creatures.

MAP is very much a museum, with all of its videos archival, and so lacks the powerful immediacy of streaming updates from web cams. As well, the short duration of most of the clips, and the fact that many appear to have been edited to include only the most interesting moments, particularly with Easterson's videos, sandwiches a human layer of interpretation between the animal, the presumably unbiased technology, and the viewer. It is strange that Easterson's museum does not link to the many live webcams trained on animals across the globe. The use of pre-recorded snippets creates an elegiac sense of loss that Akira Lippit attributes to all technology focused on animals (2008:118), for any archiving immediately speaks to the passing of a moment, and thus to the eventual death of the subject. Streaming webcams to some degree are able to bypass this fate by acting as a medium without memory.

The effect of watching any animal camera provides a powerful sense of intimacy and transience that is lacking in the *Museum of Animal Perspectives*. Watching any for an extended period of time is a mixture of soothing tedium and brief bursts of excitement. In the Live Owl Nest Box Cam (2010), for example, the viewer immediately experiences a sense of peculiar claustrophobia along with the uncanny sensation of being crammed in a nest box among assorted warm bodies. A microphone picks up the peeping of the fledglings, as well as passing birds and cars from outside the nest. Daylight seen through the openings in the nesting box marks the passage of time and gives a stronger sense of physical place and dependence on circadian rhythms. The owlets by turn appear sleepy, bored, playful and antsy. With a constant, unchanging stream of video, over the coarse of repeated viewings it becomes increasingly possible to view these creatures not as anonymous delivery vehicles for passing entertainment, but as singular subjects of a life with possible roles and motivations.

From the perspective of a cyborg ecology, the web cam in an owl's nest box is as integral a part

of the ecosystem as a tree or a mouse. The camera transforms the miniature world of the chicks into a space comprised of both physical and virtual elements. The owls' embodiment is distributed in that it exist both as a tangible, shuffling creature and as information transmitted over the internet. The owls are at once uniquely local and spread-out or globalized. They are both absent and closer than what could be achieved by physical proximity; if the onlooker were actually peering into the nesting box she would scare away the owls in short order. The owlets are not merely the subjects of the web cam, instead, they are equal participants in a performance of a hybridization of knowledge. The online viewer interpenetrates with the owls, if only in the virtual realm. The audience member is both a human enhanced by communication technologies and a human transformed through sympathetic resonance into the owl chick's phantom nest mate. In other words, the intervention of telemetry creates a human-computer-bird chimera, and achieves a melding of the natural and constructed world of which Haraway would approve. However, animal web cams fall short in regards to the self-to-self response that rhizomatic animality demands. The subjects of these cameras have no way to interact with the online audience, and neither are they afforded the freedom to respond to the human as the human responds to them.

4.2. From Animal Toys to *Animal Superpowers*

Animal Superpowers (2008), a collaboration between Chris Woebken and Kenichi Okada, is playful re-imagining of the animal point of view that is in much the same vein as the *Museum of Animal Perspectives*. Here, the artists dispense with the familiarity of the image projected on a screen, and immerse their audience within an approximation of various species' senses. The project consists of a set of children's toys that interpret various animal abilities through technologies such as GPS and video. For instance, the 'bird' device vibrates when the user is pointed in the direction of a set home point, similar to how birds are able to sense the earth's magnetic field to pilot during migrations. Another addition to the *Superpower* lineup include shoes that allow the user to pick up ground vibrations much in the way that elephants use low-frequency seismic vibrations to communicate over long distances. Of the all the devices, the 'ant' toy causes the most significant alteration in the behavior of the participant as it interferes to such a degree with the brain's normal grasp of vision as to render it useless. The apparatus consists of a helmet-like device attached to two hard plastic mitts, each housing a microscope that magnifies the ground by 50 times. The user shuffles along on hands and knees, watching two video feeds of a disjointed world of massive twigs, leaves, and other insects. Rather than

acting as a direct analogue of ant existence, the device invites sympathy by highlighting the locomotive feats an ant must make through a confusing, dense, three-dimensional matrix of spaces, although it does neglect the fact that ants live in a world made significantly more intelligible by highways of pheromones. The artists mention that ant toy slows down even hyperactive children (Debatty, 2008), reducing the proprioceptive envelope of the human body, and then forcing the user to crawl along at the actual pace of an insect. By bending down and coming into contact with the ground through the hands, knees, and eyes, the user becomes aware of the existence of an invisible environment over which the human one is usually superimposed and, perhaps, becomes attuned to a usually disregarded form of consciousness as a result.

Another approach to animal point-of-view devices is Jim Roko's *Leaping Rabbit* (2004), a sort of hobbyhorse with a large pair of fluffy rabbit ears and a tail attached. The user leans over to look down a pair of periscopes that are attached off-center on the axis of a wheel. The periscopes look out in opposite directions, approximating the 360 degree field of vision of a rabbit, while the up-and-down motion of the off-center axel is meant to simulate hopping. Like *Animal Superpowers, Leaping Rabbit* is a tongue-in-cheek exploration of the animal experience of the environment, in this case, Kensington Gardens. However, it does have more serious aspects, including the rather awkward stooping stance the user is forced to take to operate the device. This stoop resonates with Okada and Woebken's ant toy as well as with other actions of 'becoming minoritarian,' such as bowing in an act of humility, or bending over to enter certain a spiritual space. This uncomfortable position signals submission of the human body to an animal body, and also marks the symbolic passage from one state of being to another. As is true with other works to be discussed below such as *Robotic Geese* and *ENKi, Leaping Rabbit* and the 'ant' toy seem to argue that a shift in perspective or consciousness must be accompanied by an alteration in the body and affect, and that this alteration is by necessity one of discomfort.

Animal Superpowers and *Leaping Rabbit,* as well as the various projects of Easterson, emphasize that on the most basic of sensory levels a technological apparatus is necessary to interpret the animal perspective for human consumption. As with the other works discussed below, these pieces underscore an implicit understanding that human perception, visual, linguistic or otherwise, is not the most evolved or most truthful means of interpreting reality. These projects are not shy about the supremacy of embodied sensation, quite in contrast to certain arms of new media philosophy, particularly transhumanism, that insist on the disutility of the body. This attitude to embodiment is tied to a rejection of the dualist notion of humans as agents of the mind and animals as agents of the

physical.

Using play as framing device does not trivialize the experience in these two works, as it may be advantageous to couch potentially alienating experiences within the context of diversions. As noted by Huizinga, play is elemental to both humans and to upper-order animals (1949: 55). Haraway adds an ethical twist to this statement, saying that the most important question to ask regarding animals is not whether they suffer, but whether they play (2008: 22). Because play ideally exists in a space of potentialities, where consequences exist but not of the same type as would arise from the same circumstances in 'real' life, it is possible to say that that play exists within the virtual realms of Hayles or Munster. As behaviorists are fond of saying, play is serious business (Sanville, 1991), miming as it does for humans and for animals the actions of violence, lust, negotiation and creation. Yet the frivolity of play masks these underlying truths, and opens up the self for ruptures within the insular, humanist identity precisely because the imaginative aspect of fun inherently interpenetrates the virtual and the real manifestations of the mind-body.

Woebken points out the project is ultimately geared towards human-centered improvements, saying that "augmentation training tools can create a new awareness...and train new reflexes for today's survival" (Debatty, 2008). Here the artist seems to intend the toys to aid the user in becoming a better version of herself strictly in a human sense, and not as an entity capable of participating in rhizomatic animality. The priority attached to the perfectible human subject may derive from the fact that unlike all of the other works considered in this essay, *Animal Superpowers* does not integrate an actual non-human animal into any part of its development. The crucial feeling of empathy, of understanding the subjective experience of another mind is diluted here by the anthropocentric urge to re-appropriate the best part of the animal, in this case the 'superpowers' of navigation or detailed vision, without providing a Derridean response back to the point-of-life that supplies these resources. In disregarding the importance of consulting an actual animal, the toys fall short of the complete requirements for a cyborg assemblage, if such rules can even be said to exist. Technology in this instance does not form the third corner of Haraway's triangle, acting instead as the main 'other' addressed in these artworks. Woebken and Okada's apparatuses are primarily tools to tease the humanist subject into an experience of 'becoming' that is more implicated with machinery than with animality. The role of the technology as an active mediator, and not merely an intermediary, fails to come into the forefront of *Animal Superpowers* because there is no alien consciousness that serves to forcefully call attention to the disobedient nature of the actors in a rhizomatic network. Without the animal, these works cannot

transcend their status as clever toys that produce no serious deterritorialization.

4.3. Socially Contaminated Actors in *Rara Avis* and *GFP Bunny*

Eduardo Kac is an artist par excellence of the cyborg animal, creating rich works that intermix research technologies, robots, and telematics within the social milieu of vertebrates both human and otherwise. Of the artists considered here, Kac pays the most consistent attention to theory and the responsibility of the artist to the animal, perhaps because his work invites the most criticism. In his most refined work, there is a sense that Kac does not merely approach his non-human subjects as a source of material, but as partners in a mutual response that creates room for both the quotidian and the ecstatic.

Rara Avis (1996), a sort of system for robotic surveillance of birds, can be considered an evolutionary precursor to Jeremijenko's *Robotic Geese* (2005). The work consists of an aviary of zebra finches in a large gallery space, with a brightly colored toy-like macaw perched in a corner amidst artificial plants. The human participant, by looking through a virtual reality headset, peers out through the eyes of the robotic macaw. The robot is immobile save for a swiveling head, and can emit only a pre-recorded call. One eye of the robot transmits greyscale images, while the other transmits more information-dense color images that, at the time of the installation, were accessible only to computer owners with relatively expensive hardware. As pointed out by Philiipkoski (2002) the technology itself was little more advanced than what was available in a toy store, however, it is Kac's clever assemblage of various simple elements and his elaborate considerations of virtuality that make the work worthy of attention.

Kac notes that “real space was immediately transformed into a virtual space” (2005: 62) through this piece, reconciling the mutuality of the virtual and actual, and the electronic and the organismal, within the context of bird and people-watching. The robot can observe the observer, placing the audience in the position of the robot and of the finches that share its space. This creates an ideal situation to emphasize the actuality of distributed embodiment, with the user's proprioception undergoing a folding between the robot and human as two separate but codetermining physical states. The fact that internet users were able to observe the gallery through the macaw further extends the tangled embodiment of the participant who quite literally shares the same pair of eyes with any number of other observers. The inequality of the feeds from the macaw's eyes was an intentional choice on the part of the artist, as Kac aimed to call attention to the imbalances in the global distribution of

information. As well, and more importantly in the context of this essay, the work underscores that "reality is negotiation" (Kac, 1996: 400), and so existing human social structures extend even across seemingly unfettered virtual spaces. Although the artwork possesses a concrete physicality, it cannot be defined solely through the situated aviary. Instead, it is reciprocally dependent on the transitory interactions of those who become part of the artwork by manipulating the macaw, or by numbering among the zebra finches that presumably are not permanently connected with the work.

While highly successful from a theoretical angle, *Rara Avis* is limited in respect to its treatment of the living finches. When the artist writes that "the local ecology of the aviary was affected by internet ecology and vice-versa" (2005: 163) it is likely an exaggeration of the work's impact on the fiches. Although there is no documentation to indicate it as such, it seems doubtful that the finches recognized the robot as any sort of social presence, or even as representing some sort of living organism, and so failed to interact with it as anything other than an inanimate part of their enclosure. The presence of the living element in *Rara Avis* is one of an indifferent exploitation, not in any sense that the birds were harmed, but that they were decorative window-dressing, clearly meant only to provide a lively contrast to the robot and to set up a dialogical engagement with questions of deterritorialization and virtual life. The handling of the finches recalls Hirst's attitude towards the live flies in one of his installations, when he describes the art as formally "an empty space with moving points within it" (Baker, 2001). Despite Kac's obvious respect for animals, this installation lacks the ethical dimension that Haraway advocates because little worry is spared for the actual experience of the finches. The animal components, in this case, can react, but are effectively cut off from a response to the dozens of humans engaging in networks of relationships surrounding them but not integrating them. Kac's piece additionally lacks the tangible bodily transformations that are so effective in *Animal Superpowers*. The human dons virtual reality goggles that do not in any way recall the body-experience of a bird, either in visual form or in felt sensation. This further proves that, despite its superficial nod to the avian form, *Rara Avis* is addressed entirely to a human audience self-mediating through telematics. It fails in respect to the creation of a true cyborg by excluding the finches from the human-machine network.

A more evolved approach to rhizomatic animality is revealed in *GFP Bunny* (2000). In this work, a lab rabbit named Alba was genetically engineered to contain the gene for green fluorescent protein, a trait which was derived from a species of jellyfish. In particular contrast to earlier works of art where live animals might be placed within a performance but not fundamentally altered, Alba is

arguably a new organism, and as such is as perceptive and interactive as an artwork can become. *GFP Bunny* was born in 2000 and supposedly died in 2002, although the veracity of these dates is in doubt. Kac indicates that Alba was custom-made, while the geneticist Louis-Marie Houdebine responsible for Alba's creation claims that Kac merely picked an existing rabbit from the laboratory's line-up, and that she may possibly have been killed for research purposes rather than perishing from old age (Phillipkoski, 2002). Considering that the core of the piece was a rabbit that would fluoresce faintly under ultraviolet light, a mild fate compared to most lab animals, the project generated a disproportionate amount of controversy and media coverage. A fair portion of the outcry arose in response to the famous 'green bunny' photograph, which lead some to believe that Alba glowed an unearthly color even under natural light. Again, as with much of the confusion revolving around the rabbit's actual or imagined nature, some critics indicate that under no condition could a GFP-altered organism glow as brightly or uniformly (Phillipkoski, 2002). Regardless of her luminosity, Kac evinced considerable affection for Alba. He intended the denouement of the performance to find Alba liberated from the research institution and reunited with Kac and his family in Chicago.

His statement that "I am not interested in the creation of genetic objects, but in the invention of transgenic social subjects" (Kac, 2007: 237) should have quieted any cries of animal abuse. Alba was a central node and limit within an actor-network drawing in human mediators normally operating within the spheres of science, new media, and animal rights. Kac welcomed the controversy surrounding *GFP Bunny* as an indication of Alba's successful integration into a network far more complex than that ordinarily inhabited by a pet rabbit. The work focused human scrutiny on a individual, named creature in a way that is usually ignored in favor of a perspective that treats the non-human animal as an undifferentiated Cartesian other. According to Kac "GFP Bunny gives continuation to my focus on the creation, in art, of [...] shared spheres of perception, cognition, and agency in which two or more sentient beings (human or otherwise) can negotiate their experience dialogically [...] This is what I call the human-plant-bird-mammal-robot-insect-bacteria interface" (2007: 270). By defining Alba as a participant in *GFP Bunny* rather than the artwork itself, Kac expands the recognition of the physical manifestation of data as a distributed network extending beyond the rabbit herself. Not only is the viewer engaging with the concept-made-flesh, but the flesh itself is actively living out the concept, albeit not in any conscious or consenting manner. The *GFP Bunny* is a corporeal continuum of the art interacting with itself, with any attendant humans, and with the engine of media and communications. The work therefore represents a synthesis on one side of Deleuze and Guattari, with their animal as a

performative, porous organism that ingests and excretes relational exchanges, and with Derrida on the other side and his animal as a subject enveloping a singular personhood. Alba here is the familiar, individual pet and a creature of leaky boundaries, swapping social information with humans and genes with jellyfish.

Despite his best intentions for Alba's well-being, Kac's work hides the more insidious fact that *GFP Bunny* is one of the more carnophallogocentric artworks considered here. It may seem absurd to level such a strong criticism against Kac: Alba was, after all, a cute domestic bunny with the rather silly distinction of glowing green. Yet in some senses *GFP Bunny* constituted an artistic failure, not from the swirl of accusations surrounding her authenticity, which simply made for a more interesting and dense network of discourse, but because Alba never joined Kac's family. The network-as-artwork was never completely realized as the bunny did not reach an apotheosis as a household pet. Deleuze and Guattari would possibly be satisfied that Alba remained mired in the off-limits space of the laboratory's rabbit shed, existing in a realm where her altered genome could represent a contaminated conceptual space alone. However, from the perspective of Derrida or Haraway, or indeed of anyone sympathetic to a creature confined in a small wire cage, *GFP Bunny* never constituted a complete recognition of Alba as a radically individual, self-defining point of life. That Kac did not mean for Alba to suffer an unknown fate is besides the point. Mark Dion writes in his manifesto that "Artists working with living organisms must know what they are doing...If an organism dies during an exhibition, the viewer should assume the death to be the intention of the artist" (Baker, 2001). *GFP Bunny* may therefore be remembered at its worst as the outcome of exploitative artistic showmanship.

While Carol Gigliotti opposes all animal exploitation for the sake of art, she reserves special scorn for *GFP Bunny,* but not for the above reasons of Alba's freedom or possible death at the hands of science. In reference to Kac, and to Catt and Zurr's work with cellular structures, Gigliotti writes that "Attempts by artists to make the case for biogenetic art involving living matter or beings, by and large, have come from a truly non-radical worldview, one that still posits human beings as the center and rationale of all endeavors" (2009: 68). For Gigliotti, any interference in an animal's genome is a form of microscopic slavery, an extension of the capitalist's impulse to commodify and control any facet of life that could conceivably turn a profit. Far from the genome as Latour's postmodern object of fuzzy boundaries (Latour, 2005: 105), to Gigliotti the manipulated genome is an attempt to shoehorn life back into a modern space where the scientist is an incontestable expert and where objects exist within rigorously defined limits. The misuse of Alba extends beyond the embryonic stage of GFP gene

implantation. If Houdebine is to be believed, Kac selected the rabbit based on her gentle personality. The artist may have only chosen her based on the characteristics of a good pet, but there is also a whiff of carnophallogocentrism to his choice of a particularly placid *female* rabbit, who in some ways recalls Derrida's small, female cat. Alba appears to have been taken advantage of first through her genome, and secondly through her compliant nature.

Yet *GFP Bunny* problematizes the very concept of 'nature' that Gigliotti rather uncritically defends as physically and theoretically immaculate . She uses a section from Vanada Shiva (2000: 129) to defend her position, quoting "A relational view of living systems recognizes the intrinsic worth of all species, protects their ecological space and respects their self-organizational [...] capacities" (2002: 129). It is this idea of a proper ecological space that generates some pernicious questions, for instance, whether a domesticated animal even has a 'proper' ecosystem role that does not include humans. To argue against this would be to ignore the thousands of years that rabbits have been domesticated (Rabbit Genome Project, 2010), not to mention dogs, who have had the luck of associating with humans for at least 14,000 years, if not longer (Akey et al, 2010). Domestic animals are fundamentally difference from their wild counterparts, not only in appearance but in an altered emotional life arising from a universally diminished adrenal response (Kunzl and Sachser, 1999). To say that any and all captivity or manipulation is a cruel restraint, preventing the animal from realizing its true nature, is to fail to recognize that these animals are profoundly bound within human societies, even at the most basic level of the genome. While it is true that many domestic species are able to revert to a semi-wild state, this does not excuse the fact that Alba, or any other genetically modified lab animals, are completely linked in the 'here and now' to the ecology of their human keepers.

Gigliotti calls for an artwork of resistance to the forces of carnivorous capitalism (2009: 72), but does not offer any convincing alternatives. If artists such as Kac were to deal with animals only at an arm's length, this would be to ignore the difficulty and depth of inter-species relationships as they currently exist. As Catts and Zurr write in an essay on the ethics of Bioart, "if one accepts that living systems, by their existence, manipulates other living beings, the actual act of manipulation cannot be argued against but rather the motives for the act or the consequences of such act" (2003: 3). Life, even one composed of the most careful non-violence, inevitably impacts other life. Kac might have declared his moral opposition to genetic engineering, but this position would have generated none of the popular and academic debate over *GFP Bunny.* In this case, the work of the animal and the work of the artist did finally achieve the same end.

***4.4. Robotic Geese*, Cyborg Zoos**

In her series of *OOZ* projects, Natalie Jeremijenko takes the perspectival shifts of A*nimal Superpowers* or *Rara Avis* and adds the additional, and essential, step of allowing her animal subjects complete latitude in their decision to participate. *OOZ* represents an inverted zoo, where the human is presented as the caged half of the power dynamic, or where the boundaries of the zoo expand to include the entire world, human, animal, and technology alike. Jeremijenko's project encompasses a number of works incorporating robotics, telemetry and mimicry, all of which to some extent address animal intelligence on its own terms. For instace, the artist has created several installations that allow animals to communicate verbally with humans, including *For the Birds* (2006), with bird perches that trigger audio recordings that persuade passersby to share food. Other works in *OOZ* provide tongue-in-cheek 'essential' services for wild creatures such as underwater lighting for fish and public toilets for pigeons. Of these, Jeremijenko's *Robotic Geese* (2005) is the most directly relevant to the concept of rhizomatic animality. The robotic goose, a plastic decoy body equipped with a moveable neck and a swimming motor, as well as a microphone, speaker, and video camera, enables remote operators to interact with feral geese in an urban park. The human participant drives the robot by riding on an awkward command chair from which she can control the robot's speed, direction, and the movement of its neck and beak. Using this chair to steer, the user can emit utterances through the speaker, using either words or goose-like sounds, and record the reactions of the living geese on a video camera. These recordings are uploaded to a online database the artist calls *SIMOOZ*, or the 'simulated *OOZ'* (Ooz: Zoo backwards). Here Jeremijenko envisions that crowd-sourced conjecture and mathematical algorithms will eventually allow the goose users to arrive at a consensus on the meaning of the behavior and vocalizations of the wild geese.

Jeremijenko's work represents a considerable departure from the underlying themes of inequality and human dominance that characterizes the lopsided power structures embodied in clipping a camera onto a bison or injecting a gene in a rabbit. *Robotic Geese* is quite unlike Easterson's video-based projects which rely only on the viewership of the human audience, and exist long after the animals have ceased to play their roles, or in *Animal Superpowers,* which involves no live animals at all. Even in *GFP Bunny* the human drama is arguably of more importance than the actual rabbit that was left largely invisible. For the waterfowl in Jeremijenko's project, their participation is elective, based in their own curiosity and the degree to which the human operator can compose a worthwhile invitation to social reciprocation. If equality between subjects is a necessary component of beginning

to approach a non-human consciousness, then *Robotic Geese* may be as close as is practically possible to a comprehension of the subjective experience of a goose from the animal's own embodiment.

Robotic Geese is predicated on social interactions mediated and enabled by telemetry. The piece becomes meaningless without the bird, the human, and the robotic prosthesis functioning simultaneously and within equal capacities. In particular, this work subverts the concept that internet-enabled remote communication by definition disenfranchises the body. The work exists in the 'actual' realms of the physical goose and human user, as well as in two digital realms, one of which ferries the human presence out to the local pond and transports the goose back to the indoor control unit, and the other which consists of the traces of these interactions left in online recordings. This distributed corporeality of the human, wireless robot, and digital 'memory' is an amalgamation of the sort argued for by Hayles and Munster, which allows the user to simultaneously exist as a grounded human body and as a projected avian one.

The participant actively molds her body into the form of the driving device, placing her feet on wide pads that recall the webbed feet of the goose, and using her arm and hand like a shadow-puppet bird to control the neck and mouth of the robot. This reinforces the idea that, far from diminishing the physical senses, a reassembling of the body is key to the construction of consciousness scattered through various virtual realms. As occurs in *Animal Superpowers*, and will be seen in the work of Antony Hall, the human body must in some ways be diminished or made awkward to dislodge it from its normal proprioceptive state. Jeremijenkos' use of a device that mirrors the movements of a goose is lent scientific credence by Smuts, who describes the primal act of "synchronous movements expressing our emotional alignment, in the way of wild animals" (2001: 304). Tapping on a few keyboard buttons to interact with the wild geese would not have matched the effectiveness of Jeremijenko's use of the 'OOZ chair' to derail the human form.

The artificial goose itself straddles an uneasy ground between cyborg chimerism and pure mimicry, which aims to replicate the animal in form but not in its network of relationships. The body of the robot is devised from a conventional decoy, of the sort used to lure waterfowl into shooting range for a hunter. This choice does not suggest a shared dynamic between OOZ and blood sports, but a slightly cynical replacement of one exploitive activity for another. The animal's body may not be captured, but its behavior can be 'captured' through recordings and then uploaded to an online database. In another sense the robot recalls the 'botched taxidermy' of Baker, "where things again appear to have *gone wrong* with the animal, as it were, but where it still *holds together*." (2000: 55-56). The plastic

decoy has much the same form as a foam taxidermy form, and both objects possess similar purposes of the imitation of life as the trappings for a ritual of death. Yet despite the artificiality of the robot, the living geese recognize this ungainly contraption as a fellow worth interacting with, or at least as an entity sharing enough goose characteristics to be worthy of their attention for a moment. The fact that a goose can accept this mismatched robot indicates that the work of botched taxidermy, which produces an entity that exists in a limbo state between life and death, can be considered a cousin of the rhizomatic animal. If human completeness can be so quickly called into question in *Robotic Geese,* then perhaps the goose is participating in it own performance of bodily dissolution. Just as the human agrees to a semi-betrayal of the hominid body by contorting into the modified school desk of the OOZ chair, the goose may be experiencing an unwitting betrayal of the ontologically 'whole' self by treating a robot as an integrated aspect of its personal landscape.

Of course, given the dearth of Jeremijenko's documentation on robot-goose interaction, it may be that that the geese recognizes the robot as an 'other' instantly and treats it as such. Although clearly some species feel more interest towards our own than do others, it comes across as naïve anthropomorphism to believe that all of the targeted animals have even the slightest interest in sharing a social space with humans. As was the case with the tragic object-lesson of Treadwell, sympathetic curiosity cannot be instilled where it cannot exist. Criticism may be leveled at the work for too slavishly trying to remodel the human and robot form on that of the goose. The presumption of mimicry as the correct means for inter-species communication runs counter to Deleuze and Guattari's insistence against imitating the animal at its surface. However, not all mimicry must be the enemy of the rhizomatic, performative animal. Clearly, at the most basic level, humans are largely bereft of guiding instincts and must to a massive degree rely on the imitation of culture in order to learn. Therefore imitation as a performance, or imitation with the intent to instigate a shifting resonance, supplies a more positive manner of interpreting artworks that are closely built on the imitation of animal likeness.

Of greater concern is the work's anthropocentric emphasis on language and on the notion of the zoo. The artist's statements for *Robotic Geese* reveals some shortcomings in the theoretical background for the project, especially as relates to the notion of rhizomatic animality. In a revealing statement, Jeremijenko describes the principal 'thesis' of *Robotic Geese* as an exercise to critique dominant linguistic theory and academic expertise in favor of crowd-sourcing and improvisational informatics (Jeremijenko, 2005). Although the geese remain the singular source of material for the *SIMOOZ*

archive, the artist is frank that they are of secondary concern, along with any moments of cross-species connection. Additionally, through the filter of the Goosespeak collection, Jeremijenko treats these human-animal communicative exchanges as reducible to the sum of their parts and directly translatable into human terms and phrases. It is a strange choice given that the arguably the most compelling discourse surrounding the question of the animal involves a retreat from logocentrism.

The experimental process of OOZ is partly based on a hypothesis that human minds, emotions and social institutions can parallel those of geese. The fallacy of this assumption is encapsulated by Wittgenstein, who writes that "If a lion could talk, we could not understand him" (1963: 223). There is no guarantee that the human and goose consciousness are analogous, or that their similarities can ever be addressed except in the indirect, sidling-up of becoming-animal or becoming-intense (Haraway, 2007: 30). Despite this, Jeremijenko expects concrete, repeatable results to arise from the Goosespeak wiki. By emphasizing the continuing primacy of language by recording the interactions and encouraging interpretation, the artist limits the complexity of 'goosing' to the online verbal speculation of past participants. Unfortunately the *SIMOOZ* database is not accessible to the public or has not actually been created, so the only conclusions available are the artist's weak assertions that participants enjoy attempting to communicate with geese, and come away with a greater curiosity towards them. In fact, it is the very lameness of these conclusions that may indicate that failure is endemic when expecting the application of human logic outside of our own species.

The artist's own description of her work is intimately couched in terms that ascribe to animal-human duality: "OOZ is interactive in that it provides humans a set of actions, the animals provide reactions and these couplets add to a collective pool of observations" (Jeremijenko, 2005). The flow of information is presented as a one-way loop where the human participant remains literally and figuratively in control. In this sense, the human's own ontological state becomes no more diffuse than it does from interactions with docile domestic animals or familiar electronic devices. Although dependent on technology, the sense that Jeremijenko aims for a perfect translation between human and animal experience diverts from the important role of the digital mediator not merely as a tool and but as a vital third party within the cyborg assemblage. Several other pieces within *OOZ* also betray an disappointing sense of the superiority of human expertise over unplanned nature, such as the belief that an artist-designed shelter would support more life than an equal area overgrown with native vegetation, or that fish that had evolved for millions of years perfectly content in murky water would somehow 'appreciate' underwater lighting. This comes dangerously close to the pre-modern sentimentality

directed towards non-human life, of nature desiring the hand of a keeper.

The unstated value of the intervention of a human zookeeper is in evidence throughout the *OOZ* projects. The inversion of the zoo should, ideally, imply animal observation of the human world, and force the human to attempt an understanding of the animal psyche in nature, rather than its decontextualization within a human-controlled environment. However, in this case the animals are summoned into the space of the project, called into an unnatural participation that does not necessarily constitute a beneficial arrangement. If the artist wished to carry out her goal of an inverted zoo to a more accurate conclusion, it would not involve forcefully injecting our presence into their realm, but would invite non-human organisms to creep into, contaminate, and re-appropriate human habitats. *OOZ* performs a conceptual disservice to the participants by dealing primarily with feral or non-threatening species that already choose to closely associate with the human habitat, the sort of animals the Delueze and Guattari reject as only weak, narcissistic reflections on ourselves (1988: 90). While Derrida and Haraway show that this off-handed dismissing is myopic, it is nonetheless tempting to image what startling animal-becomings might be instigated by attracting megafauna or remotely interacting with large predators, all of which are usually kept behind strong bars or the safe space of a zoom lens. It is an unfortunate truth that the closer an artist gets to an intimate interaction with an animal, the more that animal must exist in a partly or fully tamed context. In such circumstances a response to the consciousness of a 'dangerous' creature is limited to the imagination-exercises of Easterson or Woebken and Okada.

Contrary to Jeremijenko's goal, to invert the zoo is not to abandon it. Rejection is always a reactive position, as when Matthew Calarco points out that to give animals rights derived from human institutions only imprisons them in a more elaborate conceptual apparatus (2008: 8). The zoo-like preservationist bent is evident throughout the *OOZ* series. Jeremijenko explicitly seeks to reverse the trend of animal disappearance, to replace Akira Lippit's "perpetual vanishing" (2008: 1) with a fictive zone where populations are permanently on the increase. While the artist presents the reversed zoo as a space of abundant life, a sort of return to a pre-fall garden where humans and animals interact in non-violent, non-exploitative innocence, *OOZ* is clearly an extension of a culture shrinking away from contact with the natural and animal other. Lippit's claim that "modern technology can be seen as a massive mourning apparatus, summoned to incorporate a disappearing animal presence" (Lippit, 2008:118) is especially applicable in this case. *OOZ,* while caught up in the trappings of contemporary telematic communications and architecture, is profoundly nostalgic for an idealized, paradisiacal past.

In the sense that Jeremijenko transforms the world into a zoo, this suggests a strong identification with Latour's second modernity, where the unintended consequences and externalities of human behavior have transformed the entire earth into a poorly constructed human edifice. The interest in recording snippets of goose behavior in the *SIMOOZ* speaks to an archiving of the animal essence, an undead state of virtual preservation that neither recognizes the organism as radically individual nor as a network of processes. Instead, the atomization of each behavior into a unit reduces the goose population to a set of immutable or translatable characteristics, at least according to those who 'decode' the bird in the online database. Indeed, the participant is excluded from the potentiality of animal-becoming via the recursive application of rational language to a non-human organism.

4.5. Becoming-Animal and Becoming-Human in *ENKi*

A theorist of the new organism would be hard pressed to find a more alluring example of rhizomatic animality than Antony Hall's interactive work *ENKi* (2006). *ENKi* rejects the logocentric goals of *Robotic Geese* in favor of a subtler exchange. Hall's piece neurologically integrates the human and fish experience through the use of digital, cybernetic feedback mechanisms. The work consists of a bio-interface that links the electrical pulses of one of several species of weakly electrogenic fish with a wired-in human recipient. Visually, the work is sparse and scientific, characterized by tangles of wires, an unnatural, sterile environment for the fish, and clusters of computer screens to monitor the living participants. The human and the fish are isolated from the rest of the gallery space in a soundproof, electrically insulated room. The participant wears headphones, transmitters and, in earlier versions of the work, modified goggles that periodically transmit bursts of light (Hall, 2009). In *ENKi,* the 'chirps' or sinusoidal waves of the fish's electric organ, depending on species, are translated into a code which then controls the stimuli of sound and light transmitted to the human. Other versions of this experimental artwork further enhance the experience by placing electrodes along the length of the participant's body, usually at points used in medical electro-acupuncture treatment, which then vibrate according to the electrical output of the animal (Hall, 2009).

While *ENKi* is similar to the brainwave-altering 'mind machines' of the 1970s in its hallucinatory effect (Hall, 2009), the difference here is that the embodied manifestations of a fish's existence alters the ideas and emotions of the human subject, which in turn alter those of the fish. In order to complete the cycle of communication, the human's mental and emotional responses are gathered from a brainwave visual analyzer and from a galvanic skin response monitor, and are then re-

interpreted back into electrical signals which are relayed to the fish tank. The artist aims to have the fish learn to interact with the human mind and the electric apparatus as if were another type of electric species, or at the most basic level to train the fish to distinguish the human presence from background interference (Hall, 2009). The unusually large brains of these types of electric fish, exhibiting a comparable brain-to-body mass ratio as those of humans, coupled with the fish's known ability to memorize tasks, suggests that such training may be attainable (Hall and Hansen, 2010). The ultimate outcome of this experiment is intended to create a feedback loop between the fish and the person, where the electric tics of the fish govern human emotions and mental states, and vice versa. Theoretically a constant state of unstructured flux is possible between the participants, although in reality the exchange is limited by the human's interest, the fish's activity level, and the degree to which the interface is able to generate novel situations. It is primarily a dialogical artwork, attempting to translate physical sensations not into an exact language, but into a co-determining communication mediated through the medium of electronics, which act as tools to synchronize the functioning of two very divergent modes of consciousness.

Within the small space of the exhibition room, Hall integrates a series of deterritorialized organisms, creating new alliances even as he dispenses with the organizational principles of geography and ecology. The very name *ENKi* suggests a sort of techno-historical bastardization, as it is both an acronym for the technologies used in the project (Hall, 2009) and the name of the Sumerian god of water and creation. The mormyrid fish, such as the long-nose elephant fish, are native to Africa, while the evocatively named black-ghost knife fish is endemic to the Amazon basin. Like Deleuze and Guattari's 'unnatural participations,' the fish are removed from the ancestral territory of an idealized nature and refashioned into decontextualized entities. Hall writes of the mixture of wild-caught and captive-bred fish in a traditional aquarium as an elaborate, creative recreation of a utopian space: “The skill of the aquarium keeper is to create harmony among fish - and through this; craft an impossible window into an otherwise wild world by creating a controlled illusion of it” (Hall, 2006). As virtual spaces, aquariums happily mix living species with those extinct in wild, while others dispense entirely with geographical accuracy and lump together all species capable of coexisting in similar conditions. Much like a traditional, science-orientated aquarium, Hall radically alters the supposedly appropriate context of the fish in a gesture that indicates that no one position or immutable state of being may be accurate. Here, even fish are subject to the leaky boundaries of Latour's second modernity, or the 'interkingdoms' of Deleuze and Guattari (1988: 90).

The importance of the living fish to *ENKi* is not limited merely to a riff on the de-natured, nomadic animal, for on a deeper level the work emphasizes the surprising responsiveness and mental flexibility of the fish themselves. In each iteration of the project, Hall must adjust the setup as the fish learn to adjust to the human presence as an artificially-created electrical current within the tank and as vibration-emitting organisms outside the tank. In a 2008 interview, the artist notes that "I recently discovered that I might be having a problem with what is known as 'superstitious' behavior in the fish [...] [ENKi is] now becoming an experiment into animal psychology, not just electro physiology" (Debatty 2008). Hall is not forthcoming about what this behavior might entail, but it does indicate that these animals can form beliefs and have a conscious awareness of their control over their surroundings. The fish's responsiveness in some ways indicate that they are actively immersed in a sort of 'becoming with' the human and conceptual aspects of the piece.

Like buoyant objects set in motion in a three-dimensional space of creation and contamination, the fish, artist, and human participant to some degree codetermine the ongoing processes of their engagement. Deleuze and Guattari succinctly describe the type of action *ENKi* undergoes when they write "The metamorphosis is a sort of conjunction of two deterritorializations, that which the human imposes on the animal by forcing it to flee or to serve the human, but also that which the animal proposes to the human by indicating ways-out or means of escape that the human never would have thought of by himself" (1988: 100). Although the philosophers are referring to a mostly metaphorical version of the animal, Hall's work indicates how much more effectively the humanist subject can be restructured by interjecting an actual, foreign consciousness, and not just the pre-conceived idea of one. The 'means of escape' here does not mean that the fish somehow desire to actually flee. Rather, it means that the continual near-miss of comprehension, of only a slippery grasp of the fish's worldview, suggests to the participant a direction to pursue if the human is to move "toward the realms of the asignifying, asubjective" self (Deleuze and Guattari, 1987: 206).

Of all the artworks considered here, *ENKi* gives rise to the most intense toppling of the human participant's sense of the sovereign self. On the surface, the setup of the piece and the artist's interest in electric therapies uneasily recall medical experiments, on both human and non-human animals, where patients are unable to voice their assent or dissent. Even Hall expresses his discomfort in being alone while conducting trial runs and allowing strangers to be wired into the project without knowing fully what they might expect of the experience (Beatty, 2008). In this case, the Deleuzean 'interpenetration' of the two individuals becomes literal, with the human's own body invaded by the sensors, and the

fish's body invaded by proxy from the cluster of sensors in its own tank. However, while the electric fish may not note any distinct beginning or end to the experiment, and so undergo a more holistic experience, the human participant while suiting up in the array of sensors sees the event as an episode fully removed from everyday life. According to Munster this "immersion, for all its realist trappings, is also an unreal place, in which bodies are distributed between the fantastic and the actual, moving around impossibility in one sphere and feeling movement in the other" (2006: 92). This distinction creates an alienating experience for the human, forcing an understanding of rhizomatic techno-animality as a special instance, and that 'becoming-animal' has no particular relevance to the human realm of language and rationality.

Yet, on a more profound level it is this incomplete splitting of the physical and projected body that is instructional. The participant feels with her own bodily senses and yet feels outside of them, oscillating between a real and virtual corporeality over the course of participation in *ENKi.* The documentation for the piece describes the "human body as electric image" (Hall, 2009) indicating that the artist is well aware of the interplay between the real and virtual, and of the capacity of technology to give rise to an unsettled state that produces multiple analogs of the human body. The fact that the participant senses another presence that is not just reacting in the sense of a pre-coded program, but is actively responding, provides further reinforcement that human embodiment can be folded into that of another consciousness. The enfolding and outreaching of the human mind-body in *ENKi* provides authentication for the theory of distributed consciousness as described by Hayles (2002: 319), where thought is a dispersed process that extends over tools, recorded information, and the environment. If human consciousness can easily be spread among anthropological artifacts, then surely it can integrate 'thinking' electronics and animal minds, Amazonian fish included.

As argued by Hayles, this notion of distributed consciousness radically alters traditional ideas of free will and autonomy. The human participant surrenders much of the agency attributed to the humanist subject, deprived of language and thus of the prime tool of rational domination. In addition to the unsettling drone and hallucinatory flashes inflicted on the senses, one of the main challenges to the bounded self in *ENKi* is the elimination of language in favor of other means of communication. Hall's introductory video makes explicit that the work was conceived specifically as a means of "avoiding the use of language as such, instead *stimulating* an actual shared physical empathy" (Hall, 2009). Again, 'sympathy' would be the better concept to describe the unspoken resonance that occurs between the fish and the human. As indicated by Haraway and Derrida, it is this variety of sympathy

that the forces of logocentrism seek to undermine as they carefully guard the boundaries between human and non-human animals. By discarding the cognitive tool which allows humans to parcel the world into abstract concepts, *ENKi* avoids the reactionary restrictions of perfect translation, and sidesteps this human-specific superpower which fetters us in interactions with non-linguistic beings. In some ways the project can be interpreted as an experimental method to induce 'paraneoplastic encephalopathy,' a unique mental handicap where the sufferer retains the ability to describe objects and humans, but completely looses the ability to translate into words the names or even physical attributes of animals (Lippit, 2000: 4). The creature here is no longer an abstract representative of the molar category 'fish,' but a radically individual entity over which the human temporarily has no dominion.

ENKi is a convincing argument for the existence of the cyborg entity, not one that is industrial, abstracted, and constrained, but that contains "social and bodily realities in which people are not afraid of their joint kinship with animals and machines, not afraid of permanently partial identities and contradictory standpoints" (Haraway, 1991: 154). While it is possible for the human via a thought experiment to become-other in a state of rhizomatic animality, the fish's own response would necessarily be excluded from this partnership without the intervention of electronics and machines. Therefore technology acts as a tool to disrupt any dualistic patterns that might arise and to enable otherwise impossible interactions. The monitors, analyzers, and computers in *ENKi* act not merely as translators but as Latourian mediators that enfold input and remodel it, and so behave as a foundational partner within the cyborg structure of the artwork.

While Hall's work has its share of poetic elements, it engages seriously with the role of science and technology within an artistic context. In particular, Hall problematizes the partitions between scientific and philosophical fact, and between the researcher and his subject. For instance, *ENKi* adeptly illustrates that the 'becoming-animal' of Deleuze and Guattari is indeed not a metaphorical act. Here the ecstatic process described in *A Thousand Plateaus* can be reliably and measurably instigated. This suggests a point of convergence between philosophical theory and scientific inquiry, especially with the fields of animal behavior and medicine. The scientific trappings of *ENKi* generate similar repercussions as those of *GFP Bunny*, that is, by problematizing and making strange the experiments carried out as part of the normal operations of medical and consumer research. The difference here is that Hall largely inverts the power structure of researcher and research subject. Kac very much worked within established hierarchies to produce Alba, doing so with respect towards the animal but nonetheless risking little of himself. Hall assumes the mantle of the mad scientist or the self-

experimenter who has no qualms over his surrender to very thing with tradition dictates he must treat with detachment and dispassion. In an incomplete but important inversion, sacrifice in *ENKi* flows from the carnophallogocentric subject to the normally tyrannized research object. Although Gigliotti disapproves of the use of all live animals in art, she would arguably be slightly more forgiving to Hall than she is towards Kac.

Since both *ENKi* and the theorists discussed in relation to it are dismissive of attempts to replicate one-to-one analogs of experience, they offer a intriguing circumvention of Nagel's rebuttal of materialist theory. These works do not actually refute Nagel; not doubt it *is* impossible to know the exact qualia or sense of 'being like' of an electric fish as our physical bodies are inseparable from our embodiment. A human would literally have to become a black ghost knife fish in order to perfectly grasp what it is like to have fins, a sensory electrical organ, and so on, and by that point there would be no human remaining to whom to report the findings. Instead, Nagel's question becomes fundamentally unimportant in light of *ENKi* and other works in the canon of the rhizomatic organism. Baker approaches a similar conclusion through his idea of the 'postmodern animal,' writing that "the future of the human in the postmodern world is [...] intimately and creatively bound with that of the animal. From this perspective, the classic dualism of human and animal is not so much erased as *rendered uninteresting"* (2000: 17). As effectively argued by Deleuze and Guattari, it is unnecessary, even ignorant, to assume that the human can strive to be 'in' or 'like' the animal. To these philosophers, Nagel's "humanly inaccessible facts" (1974: 4) are a worthless to goal to pursue. The living entity does not exist in a state of 'being like,' but is instead defined by the phase space of relationships and transformations within which it moves, and the degrees of its abilities which go realized or unrealized depending on the circumstances. The human subject must strive to be 'with' the animal, to achieve a parallel or echo of the non-human state. In other words, that the human and the fish are isolated from one another's *umwelt* is no longer problematic from the perspective of a fluid network of actors. The processing, swarming, and goalless negotiating of the rhizomatic creature allows the machine-animal-human hybrid to achieve a non-reductive ontology of heterostatic becoming that does not depend on Nagel's absolutist qualia.

5. Conclusion

In a culture of reflexive modernity, the critical human is presented with two radically opposed means by which to engage with animality. One dominant paradigm places humans in violent

opposition to animals. Scores of cows are dispatched with a bolt through their brains without a moment to consider the irreplaceable individual destroyed in this action, while the single action of a rupture in an oil line wipes out scores of living potentialities that could be realized in the phase space of an ecosystem. These realities embody the abyssal rupture of Descartes and Heidegger, who so confidently place humans in a position of absolute authority over all other life. As argued by Latour, such positions are no longer tenable. Man has fallen from a brief sojourn at the peak of modernity and is now beset on all sides by the fruits of near-sighted experts, unintended consequences of science and industry, and a gnawing sense of being ontologically unmoored.

The second paradigm lies in rhizomatic animality, which is outlined in the work of Deleuze, Haraway, Hayles and Derrida, and made manifest where their theories intersect with art. The work of the artists discussed above points to several essential steps towards making real the concept of the living organism becoming-cyborg. On the most basic level, the visual sense of the human participant should be transported to that of the animal or some approximation thereof. Where the eyes go the body must then follow, warped and fitted down into forms that either try to exactly recall the animal, as is the case in *Robotic Geese*, or that indirectly engage with a concept of the animal's bodily senses, as with *ENKi* or *Animal Superpowers.* In both of these instances, new media technologies introduce a vital component of an embodiment that is virtually distributed, as well as making possible interactions that could otherwise have never occurred. After the human has been made to feel sufficiently strange in her normal body can the social element of interaction with an animal be introduced. Only at this point is the participant prepared to accept the elimination of a hierarchy that normally exalts the human and thus enter into reciprocal relationships with her fellow organism.

The notion of rhizomatic animality, acting as a loose set of guidelines, points to compelling directions for further experimental and artistic investigation. Pieces involving live animals are a small part of contemporary art scene. Those that permit actual interaction with the animals is an even tinier sub-genre; the art described in this essay constitutes a majority of the entries in this category. It is tantalizing to to imagine the artistic avenues that have yet to be explored in this regard, such as including more individuals of different species, transporting the artwork outside of the setting of a gallery, and striving to more thoroughly permit the animal conscious choice in participation and partnership with the human participant.

The yet to be realized possibilities of cyborg artworks speaks to some of the failings of the pieces described in this essay. In some several ways they demonstrate the difficulty of dealing with the

animal of Derrida or Haraway as an individual deserving of a response, to be approached with a truly unbiased mind as opposed to a set of preconceived notions based on species and abilities. Hayles summarizes the precarious nature of these pieces, writing that "ambiguity inheres in any artistic practice that uses the tool of the master to gain perspective on the master's house (2000: 86). Even artists with the most unassailable of stated intentions, such as Kac and Jeremijenko, at some point betray hints of a worldview firmly grounded on two human feet. No doubt some degree of anthropocentric thought is inevitable except in the most pure manifestations of philosophies such as Buddhism that aim for a complete collapse of all alterity.

For artists who seek to create *with* and *alongside* animals, a more actionable lesson would be the injunction to strive at all times to upset accepted power balances. Human participants within rhizomatic animality must place themselves at the mercy of the animal as much as the animal is at the mercy of the human. The artist should be alert to the constantly adapting paths that the animal suggests to them, and be prepared act on these paths of escape. The appropriate response to a non-human person, as perhaps the artist should know intuitively, dispenses with verbal language and its abstraction of the 'other' into a concept or a label. In short, the role of the adherent of rhizomatic animality is little different than of any theorist or artist, or indeed of any animal: to call into question, to mock, to play, and to unbalance conventional selves and boundaries. A revised ethical approach to the thus far only weakly plumbed depths of non-human life is therefore not in a set of rules or immutable legislation that aims to curb the worst of human excess and self-interest, or to place animals in the protected position of infants. A truly ethical response dispenses with all remnants of carnophallogocentric thought. It makes room for mutual 'ways-out' wherein the human negotiates the latitude of her arrangement with the animal based on the subtly individuated sphere of capacities of each animal, and on an understanding that the negotiation of rhizomatic 'becoming' aims at an endpoint that can never be reached.

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