How dogs dream:

Amazonian natures and the politics of transspecies engagement

ABSTRACT

Under the rubric of an "anthropology of life," I call for expanding the reach of ethnography beyond the boundaries of the human. Drawing on research among the Upper Amazonian Runa and focusing, for heuristic purposes, on a particular ethnological conundrum concerning how to interpret the dreams dogs have, I examine the relationships, both intimate and fraught, that the Runa have with other lifeforms. Analytical frameworks that fashion their tools from what is unique to humans (language, culture, society, and history) or, alternatively, what humans are commonly supposed to share with animals are inadequate to this task. By contrast, I turn to an embodied and emergentist understanding of semiosis—one that treats sign processes as inherent to life and not just restricted to humans—as well as to an appreciation for Amazonian preoccupations with inhabiting the points of view of nonhuman selves, to move anthropology beyond "the human," both as analytic and as bounded object of study. [anthropology of life, human-animal relations, nonhuman selves, Amazonia, semiotics, perspectivism, multinaturalism]

ne morning, the three dogs belonging to Hilario's family, with whom I was living in Ávila, a village of Quichua-speaking Runa in Ecuador's Upper Amazon, disappeared.¹ After searching the nearby fallows and forests where they were last heard barking, we finally found them. The large tracks leading to the bodies and the telltale bite marks on the backs of each of their heads confirmed our fears—they had been killed by a jaguar.

That afternoon, back at the house, Amériga, Hilario's wife, wondered aloud why the dogs were unable to augur their own deaths and, by extension, why she, their master, was caught unaware of the fate that would befall them: "While I was by the fire, they didn't dream," she said. "They just slept, those dogs, and they're usually real dreamers. Normally while sleeping by the fire they'll bark 'hua hua.' "Dogs, I learned, dream, and, by observing them as they dream, people can know what their dreams mean. If, as Amériga imitated, the dogs had barked "hua hua" in their sleep, it would have indicated that they were dreaming of chasing animals, and they would, therefore, have done the same in the forest the following day, for this is how a dog barks when pursuing game. If, by contrast, they had barked "cuai" that night, it would have been a sure signal that a jaguar would kill them the following day, for this is how dogs cry out when attacked by felines (see Figure 1).

That night, however, the dogs did not bark at all, and therefore, much to the consternation of their masters, they failed to foretell their own deaths. As Delia proclaimed, "Therefore, they shouldn't have died." The realization that the system of dream interpretation that people use to understand their dogs had failed provoked an epistemological crisis of sorts; the women began to question whether they could ever know anything. Amériga, visibly frustrated, asked, "So, how can we ever know?" Everyone laughed somewhat uneasily as Luisa reflected, "How is it knowable? Now, even when people are gonna die, we won't be able to know." Amériga concluded simply, "It wasn't meant to be known."



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Toward an anthropology of life

This article is about the considerable challenges involved in knowing and interacting with other species and the implications this has for the practice of anthropology. It is a step toward developing an anthropology that is not just confined to the human but is concerned with the effects of our "entanglements" (Raffles 2002) with other kinds of living selves. Following Donna Haraway, I hold that dogs are "not here just to think with"; rather, they "are here to live with" (2003:5). And, with her, I also hold that the problem of how to understand dogs and, especially, how to live with them—and how dogs, in turn, come to understand and live with people—calls for an analytical framework that goes beyond a focus on how humans represent animals to an appreciation for our every-

day interactions with these creatures and the new spaces of possibility such interactions can create.²

For Amériga, and for the Ávila Runa, more generally, the dreams, intentions, and motivations of dogs are, in principle at least, knowable. This is because, according to them, all beings, and not just humans, engage with the world and with each other as selves—that is, as beings that have a point of view. Runa ways of knowing others, then, are predicated on what I call an "ecology of selves." In this regard, they share something in common with Jakob von Uexküll (1982), an early 20th-century pioneer in the study of animal ethology. Von Uexküll insisted that ecological relations are not the product of mechanical cause-and-effect interactions among organisms as objects. Rather, they are the product of the interaction of the phenomenal worlds—what he



Figure 1. Pucaña, one of the three dogs killed, with Amériga's daughter Fabiola and grandson Lenin. Photo by E. Kohn.

called "umwelt"—that are particular to the perceptual and bodily dispositions, motivations, and intentions of different kinds of beings. The distinction, then, is not between an objective world, devoid of intrinsic significance, and humans who, as bearers of culture, are in a unique position to give meaning to it (Sahlins 1976:12). Rather, as Terrence Deacon (2003a) has argued, "aboutness"—representation, intention, and purpose in their most basic forms—emerges wherever there is life; the biological world is constituted by the ways in which myriad beings—human and nonhuman—perceive and represent their surroundings. Significance, then, is not the exclusive province of humans.

An anthropology that would take this insight seriously would, perhaps, no longer be the anthropology we currently know. Sociocultural anthropology, as practiced today, takes those attributes that are distinctive to humans—language, culture, society, and history—and uses them to fashion the tools to understand humans. In this process, the analytical object becomes isomorphic with the analytics. As a result, we are not able to see the many ways in which people are, in fact, connected to a broader world of life and the ways in which this changes what it might mean to be human. Mine is not a call for sociobiological reductionism. Rather, it is a call for expanding the reach of ethnography. An ethnographic focus not just on humans or only on animals but on how humans and animals interact explodes this closed self-referential circuit.

At stake is how to think about "nonhumans"—an analytical category that Bruno Latour (1993, 2004) proposed to move the ethnographic study of science-making practices beyond social constructivist frameworks in which humans are the only actors. The distinction Latour makes between humans and nonhumans, however, fails to recognize that some nonhumans are selves. As such, they are not just represented (Latour 1993) but they also represent. And they can do so without having to "speak." Neither do they need a "spokesperson" (Latour 2004:62-70) because, as I demonstrate in the following discussion, representation exceeds the symbolic, and it, therefore, exceeds human speech. Although we humans certainly represent nonhuman animals in a variety of culturally, historically, and linguistically distinct ways, and this surely has its effects, both for us and for those animals we represent, we also live in worlds in which how other selves represent us can come to matter vitally. Accordingly, my concern in this article is with exploring interactions, not with nonhumans generically—that is, treating objects, artifacts, and lives as equivalent entities—but with nonhuman animals in terms of those distinctive characteristics that make them selves.

In understanding nonhuman selves and how we can interact with them, the choice is not between (animal) bodies and (human) meanings. Nor can we simply resolve the problem by combining bodies and meanings, or by attributing meaning to animals, or even by recognizing that humans,

too, have bodies. What is needed is a representational system that regrounds semiosis in a way that gets beyond these sorts of dualisms and the mixtures that often serve as their resolutions. As I have argued elsewhere (Kohn 2005), semiosis is always embodied in some way or another, and it is always entangled, to a greater or lesser degree, with material processes. The use of a hyphen—for example, Haraway's "fleshly material-semiotic presences" (2003:5) or Latour's (1993:106) "natures-cultures"—although currently a necessary strategy, could lead one to think that there is a semiosis devoid of materiality.⁴

As social theorists, we inherit a pervasive (but usually implicit) linguocentric representational framework that often reproduces a dualistic division between the material and the meaningful even when it seeks to overcome it. The hyphen, as a solution to the problems raised by this framework, of course, is a placeholder, and it points to very real connections of which we need to be aware. To this end, my goal, in the larger project of which this article is a part, is to follow ethnographically the human—animal interactions that take place around one particular village in the Ecuadorian Upper Amazon and to think about them in terms of a semiotic framework that goes beyond the human, in an effort to develop an approach that might allow us to better account for the work that goes on in the space that the hyphen seeks to bridge.

To do so, I draw on the nondualistic representational system developed by the 19th-century philosopher Charles Peirce (1931-35; see Kohn 2005).5 This system recognizes the central importance to human forms of reference of those signs known as symbols, which refer by means of convention (e.g., the word dog). It also recognizes, however, how symbolic reference is actually constructed out of more basic nonsymbolic sign processes, which are not unique to humans, as well as how symbolic reference is also in constant interaction with these more fundamental modes of reference (see Deacon 1997:69-101).6 These more basic sign processes those that involve signs known as icons (e.g., a photograph or the cryptic coloration of a lizard's skin), which embody likenesses, and those that Peirce labels "indices" (e.g., a windsock or a monkey's alarm call), which are impacted by the objects they represent—are more susceptible to the qualities, events, and patterns of the world than is symbolic reference, whose mode of representation is more indirect.⁷

Although symbols and signs are often conflated in social theory, the system I use treats symbols as just one kind of sign. This means that when I talk about signs and semiosis, I am referring to a range of referential strategies that may include icons, indices, or symbols. Symbolic reference is a distinctly human form of representation that is embedded in more fundamental and pervasive modes of representation, which are based on iconic and indexical modes of reference. These more basic modes are intrinsic to the biological world. Even the simplest organisms are inherently semiotic

(Hoffmeyer 1996). For example, the cilia of a single-celled paramecium function as an adaptation that facilitates the organism's movement through a liquid medium. Their specific organization, size, shape, flexibility, and capacity for movement capture certain features of the environmentnamely, the resistance afforded by the characteristics of the particular fluid medium in question, against which the organism can propel itself. This adaptation is an embodied sign vehicle to the extent that it is interpreted by the subsequent generation with respect to what this sign vehicle is about—the relevant characteristics of the environment. This interpretation, in turn, becomes manifest in the development of a subsequent organism's body in a way that incorporates this adaptation. This body (with its adaptation) functions as a new sign representing these features of the environment, insofar as it, in turn, will be interpreted as such by a subsequent generation in the eventual construction of that generation's body. Because lineages of organisms whose cilia less accurately capture relevant environmental features do not survive as well, the lineages that do persist come to exhibit comparatively increasing "fittedness" (Deacon 2006) to this environment; they are more exhaustive representations

Life, then, is a sign process. Any dynamic in which "something . . . stands to somebody, for something in some respect or capacity" (CP 2.228), as Peirce's definition of a sign has it, would be alive. Cilia stand to a future organism (a somebody) for those characteristics of a liquid environment that can be resisted in a particular way to facilitate movement. A "somebody"—or a "self," as I call it—therefore, is not necessarily human (see Colapietro 1989:5). And it need not involve symbolic reference or the awareness often associated with representation for it to qualify as a self. Self is both the locus and the product of this process of interpretation. Such a self does not stand outside this embodied dynamic as "nature," evolution, watchmaker, homuncular vital spirit, or (human) observer. Rather, it emerges within this dynamic as the outcome of an embodied process that produces a new sign, which interprets a prior one. For this reason, it is appropriate to consider nonhuman organisms as selves and biotic life as a sign process, albeit one that is often highly embodied and nonsymbolic.

Seen in this light, attempts to theorize links between the material and the semiotic via hyphens (although currently necessary) can be misleading because they might encourage us to assume a relationship among equivalent poles that obscures the hierarchical and nested dynamic by which semiosis emerges from, and continues to be entangled with, material and energetic processes. This dynamic is life itself. The origin of life—any kind of life anywhere in the universe—necessarily marks the origin of semiosis as well. In sum, any entity that stands as a locus of "aboutness" within a lineage of such loci potentially extending into the future can be said to be alive.

The semiosis of the nonhuman biotic world is iconic and indexical. That of the human world, by contrast, is iconic, indexical, and symbolic. Symbolic reference is an "emergent" phenomenon (sensu stricto Deacon 2003a) in that it grows out of more fundamental iconic and indexical modes of reference. We humans, however, do not just use symbolic reference. We also partake in iconic and indexical reference. By virtue of this shared substrate, a continuity exists between human and nonhuman modes of representation, and we can recognize this without losing sight of the distinctive characteristics that different semiotic modalities have. 10

Instead of anthropology, then, I propose an anthropology of life.11 That is, I wish to encourage the practice of a kind of anthropology that situates all-too-human worlds within a larger series of processes and relationships that exceed the human, and I feel that this can be done in a way that is analytically precise. This matters, not just for those of us who happen to care about nonhuman animals or about humananimal interactions in and of themselves—certainly important pursuits. Neither is it only important for those of us who wish to understand environmental crises—unquestionably a necessary pursuit and one that, as Latour (1993, 2004) has so convincingly argued, cannot be addressed from within the sorts of analytical frameworks that we inherit from the humanities and sciences, with their meticulous separation of human from nonhuman. But this rethinking also matters, I maintain, for social theory, more broadly. An anthropology of life questions the privileged ontological status of humans as knowers. In short, it forces us to consider that perhaps "we have never been human"—as Haraway (2004:2), in a twist on Latour's famous title, has suggested.

Yet an anthropology of life recognizes that life is more than biology as currently envisioned. Not only because biology is everywhere semiotic but also because distinctively human capacities, propensities, techniques, practices, and histories reconfigure life in new ways. Amazonian strategies for capturing feline dispositions, enabling people to become shape-shifting were-jaguars, and technoscientific pursuits such as the recent development of immunosuppressants that have rendered large populations potentially "bioavailable" for the traffic and transplantation of organs from one body to another across vast social, spatial, and phylogenetic distances (Cohen 2005) change, for better or for worse, what it means to be alive.

If our concern as anthropologists is with what it means to be human in all of its contingent complexity then, I argue, we need to look to a context beyond the uniquely human to understand this. That relevant context is life¹²—a life that is more than bodies, and a life that is also changed by the distinctive ways in which we humans live it. In the interest of beginning to imagine what such an anthropology beyond the human might look like, I offer this discussion as an initial exploration.

Points of view

If life is, indeed, semiotic and if biotic interactions are based on the ways in which different kinds of selves represent each other, then one way to study this ecology of selves is to describe the interpenetrating webs that connect, sustain, and create beings in terms of their sign-related qualities. ¹³ As people who are intimately engaged with the beings of the forest through hunting, fishing, trapping, and gathering, the Runa cannot but treat these beings qua selves, and, as I indicate below, they are, on some occasions, even forced to engage with these selves in terms of their constitutive semiotic properties.

The challenge for the Runa, then, is to enter this transspecies ecology of selves that constitutes the forest ecosystem. Like many Amazonians, they do so through what Eduardo Viveiros de Castro (1998, 2004) has called "perspectival multinaturalism." This way of understanding relations allows people to account for the distinctive qualities that characterize different kinds of beings and to establish communication with them despite these differences. It involves two interlocking assumptions. First, all sentient beings, be they spirit, animal, or human, see themselves as persons. That is, their subjective worldview is identical to the way the Runa see themselves. Second, although all beings see themselves as persons, the ways in which they are seen by other beings depend on the ontological makeup of both observer and observed. For example, people in Ávila say that what we humans perceive as the stench of rotting carrion, a vulture experiences as the sweet-smelling vapor emanating from a boiling pot of manioc tubers. Vultures, because of their species-specific dispositions, inhabit a different world from that of the Runa. Yet, because their subjective point of view is that of persons, they see this different world in the same way the Runa see their own world (Viveiros de Castro 1998:478). There are many natures, each associated with the interpretive world—the umwelt—of a particular kind of being; there is only one culture—that of the Runa. Accordingly, Viveiros de Castro (1998:478) refers to this way of thinking as "multinaturalism" and compares it to the multicultural logic (i.e., many cultures, one nature) typical of contemporary Euro-American folk-academic thought, especially in the guise of cultural relativism. 14 The upshot of perspectival multinaturalism is that it permits commensurability among disparate beings. Because all creatures possess a human subjectivity, transspecific communication is possible despite the manifest existence of physical discontinuities that separate kinds of beings.

One of the implications of adopting the viewpoints of other kinds of beings is that knowing others requires inhabiting their different umwelts. When one does so, attributes and dispositions become dislodged from the bodies that produce them and ontological boundaries become blurred. I call this transformative process of blurring a "becoming." ¹⁵

To take an example central to this discussion, in their mutual attempts to live together and make sense of each other, dogs and people increasingly come to partake in a shared constellation of attributes and dispositions—a sort of shared transspecies habitus. Such becomings cut across nature—culture distinctions; the hierarchical relation that unites Runa masters and their dogs is based as much on the ways in which humans have been able to harness canine forms of social organization as it is on the legacies of a colonial history in the Upper Amazon that have linked the Ávila Runa to the white—mestizo world beyond their village.

A conundrum

Entertaining the viewpoints of other beings is dangerous business. In their attempts to do so, the Runa do not, for example, want to become dogs. That is, transspecies intersubjectivity entails some degree of becoming other, and this carries risks. To mitigate these dangers, the Runa make strategic use of different communicative strategies. Accordingly, an important goal of this article is to trace the role of these strategies within the context of transspecific communication, ecological networks, and becomings. To do this, I have chosen, as a heuristic device to focus my inquiry, the following small, but nevertheless vexing, ethnological conundrum: Why do the Runa interpret dog dreams literally (e.g., when a dog barks in its sleep, this is an omen that it will bark in identical fashion the following day in the forest), whereas, for the most part, they interpret their own dreams metaphorically (e.g., if a man dreams of killing a chicken, he will kill a game bird in the forest the following day)? Understanding why this difference in modes of dream interpretation exists can help elucidate the challenges of moving across those semipermeable membranes that constitute the borders along shifting ontological frontiers.

As Amériga's comments above revealed, how dogs dream matters deeply. It matters not only because of the purported predictive power of dreams but also because imagining that the motivations and inner lives of dogs are unknowable throws into question whether it is ever possible to have such knowledge of any kind of self. This is untenable. The belief that we can know the intentions, goals, and desires of other selves allows us to act in this world. To show why dog dreams matter, I first examine how transspecies intersubjective contact involves ontological blurring. I then explore the dangers involved in failing to recognize those other selves that people the world. Thereafter, I turn to an examination of dog-human becomings. Finally, I examine how different communicative modes are used to protect people against the dangers that emerge when ontological boundaries become excessively blurred. I situate this examination within a discussion of the ways in which the transspecies semiosis that emerges in human-animal interactions exhibits



Figure 2. Ventura with an agouti bile duct, whose contents he will administer to his dog. Photo by E. Kohn.

characteristics that go beyond what we would traditionally identify as human forms of representation.

An ecology of selves

The Runa see subjectivity—human and otherwise—as constituted via contact with other sentient beings. The soul, they hold, is what makes such transspecies intersubjectivity possible. Animals are "conscious" of other kinds of beings and, therefore, they are considered to have souls. The example, the agouti (a kind of large edible forest rodent) and the dog both possess souls because of their abilities to "become aware of" those beings that stand in relation to them as predator or prey. The agouti is able to detect the presence of its canine predator, and, therefore, it has a soul. This capacity has a physical location in the body. The agouti's bile duct and sternum serve as its organs of consciousness—that is, its sites of soul stuff. Through them, the agouti detects the presence of predators. People's awareness of other beings is also somatically localized. Muscular twitches, for exam-

ple, alert the Runa to the presence of visitors or dangerous animals such as poisonous snakes.

Because the soul, as hypostasized intersubjective capacity, is located in specific parts of the body, it is also transferable via the ingestion of these parts. Dogs are defined as conscious, soul-possessing beings because of their ability to detect prey, such as the agouti. They can increase their consciousness—as measured by their increased ability to detect prey—by ingesting the very organs that permit the agouti to detect the presence of dogs. For this reason, the Ávila Runa often feed the agouti's bile or sternum to their dogs (see Figure 2).

Following the same logic, the Ávila Runa increase their own consciousness of other beings by ingesting animal body parts. Because bezoar stones are considered the source of a deer's awareness of predators, hunters sometimes smoke bezoar scrapings to encounter deer more readily. Some Ávila Runa also ingest jaguar bile to become were-jaguars. As such, they are empowered in their daily affairs and their soul goes to inhabit the body of a jaguar after death.

Von Uexküll wrote that a "spider's web is ...formed in a 'fly-like' manner, because the spider itself is 'fly-like.' To be 'fly-like' means that the body structure of the spider has taken on certain of the fly's characteristics" (1982:66). A spider's web is both a physical extension of the spider and an extremely precise representation of a fly—it fits the fly so well that it can quite literally capture the insect. Being aware of another being—penetrating its umwelt—in some sense requires ontological blurring; what part of a web is fly and what part is spider? The soul transfer that occurs when a dog ingests an agouti's sternum or when a person drinks jaguar bile indicates how certain attempts at transspecies communication also entail a kind of becoming that blurs ontological boundaries.

If transspecies interactions depend on the capacity to recognize subjectivity, losing this ability can be disastrous for beings, such as the Runa, their dogs, and the animals of the forest, that are enmeshed in webs of predation. For instance, something known as the "hunting soul" (casariana alma) allows men to be aware of prey in the forest. Enemy shamans sometimes steal this soul with the effect that their victim can no longer detect animals. Without this soul, hunters lose their ability to treat prey beings as selves, and they can, therefore, no longer differentiate animals from the environment in which these beings live.

This condition is an example of a widespread phenomenon in Ávila, which is a by-product of treating the numerous beings that inhabit the world as selves. I call it "cosmological autism." When men lose their hunting souls, they become, in a certain sense, "autistic." If the medical condition known as autism refers to a state of isolation that is a result of cognitive difficulties in treating other people as intentional beings (Baron-Cohen 1995), then cosmological autism, within the context of a Runa ecology of selves, refers to a comparable state that ensues when beings of any sort lose the ability to recognize those other beings that inhabit the cosmos as selves.

By using the term *cosmological autism*, my goal is not to compare a Runa "cultural" category to a purportedly objective scientific one—a quintessentially "multiculturalist" strategy. Rather, my goal is to suggest that each, in its own highly specific way, highlights the general challenges and difficulties of interacting with those other selves that inhabit the world.

Some notion of the motivations of others is necessary to get by in a world inhabited by volitional beings. We can never know what other selves—human or nonhuman—are "really" thinking, just as we can never be so sure of what we ourselves are really thinking. As Peirce notes, if you question "whether we can ever enter into one another's feelings," you "might just as well ask me whether I am sure that red looked to me yesterday as it does today" (CP 1.314). Intersubjectivity as well as introspection are semiotically mediated. It makes no difference whether that interpreting self is located in another

(kind of) body or whether it is "that other self"—the human psychological one—"that is just coming into life in the flow of time" (CP 5.421), as one sign is interpreted by a new one in that semiotic process by which thoughts, minds, and our very being qua self, emerge.

Our lives depend on our abilities to believe in and act on the provisional guesses we make about the motivations of other selves (Bateson 2000:486; Haraway 2003:50). It would be impossible for the Runa to hunt successfully or to engage in any other kind of interaction within this ecology of selves without establishing some sort of set of assumptions about the agencies of the myriad beings that inhabit the forest.

Dog-human entanglements

In many ways, dogs and people in Ávila live in independent worlds. Dogs are often ignored and are not even always fed, and dogs seem to largely ignore people. Resting in the cool shade under the house, stealing off after the bitch next door, or, as Hilario's dogs did a few days before they were killed, hunting down a deer on their own-dogs largely live their own lives.²⁰ Yet their lives are also intimately entangled with those of their masters. This entanglement does not just involve the circumscribed context of the home or village. It is also the product of the interactions that dogs and people have with the biotic world of the forest as well as with the sociopolitical world beyond Ávila through which both species are linked by the legacy of a colonial history. Doghuman relationships need to be understood in terms of both of these poles. The hierarchical structure on which these relationships are based is simultaneously (but not equally) a biological and a colonial fact. For example, predator-prey relationships characterize how the Runa and their dogs relate to the forest as well as to the world of whites.

Through a process that Brian Hare and colleagues (2002) call "phylogenetic enculturation," dogs have penetrated human social worlds to such an extent that they exceed even chimpanzees in understanding human communication. Becoming "human" in the right ways is central to surviving as a dog in Ávila (cf. Ellen 1999:66; Haraway 2003:41). Accordingly, people strive to guide their dogs along this path in much the same way they help youngsters mature into adulthood. Just as they advise a child on how to live correctly, the Runa also counsel their dogs. To do this, people make them ingest a mixture of plants and other substances—such as agouti bile—known collectively as tsita (see Figure 3). Some of the ingredients are hallucinogenic and also quite toxic.²¹ By giving them advice in this fashion, the Runa try to reinforce a human ethos of comportment that dogs, in general, are also thought to share.²²

Like Runa adults, dogs should not be lazy. This means that, instead of chasing chickens and other domestic animals, dogs should pursue forest game. In addition, dogs,



Figure 3. Preparing to "advise" a dog. The dog's snout is held shut, and the white tsita mixture is visible in the background. Photo by E. Kohn.

like people, should not be violent. This means that dogs should refrain from biting people or barking at them loudly. Finally, dogs, like their masters, should not expend all of their energy on sex. I have observed people administer tsita to dogs on several occasions. What happened at Ventura's house is typical of these episodes in many respects. According to Ventura, before his dog Puntero discovered females, he was a good hunter. Once he began to be sexually active, however, he lost the ability to be aware of animals in the forest. Because soul substance is passed to a developing fetus through semen during sex (see also Uzendoski 2005:133), he became "autistic." So, early one morning Ventura and his family captured Puntero, fastened his snout shut with a strip of vine, and hog-tied him. Ventura then poured tsita down Puntero's nostrils. While doing this he said the following:

chases little rodents it will not bite chickens chases swiftly it should say, "hua hua" it will not lie The way Ventura spoke to his dog is extremely unusual and of central importance to this discussion. I return to it later in the article. For now, I only give a general gloss. In the first phrase, "little rodents" refers obliquely to the agoutis that dogs are supposed to chase. The second phrase is an admonition not to attack domestic animals but to hunt forest ones, instead. The third phrase encourages the dog to chase animals but otherwise not to run ahead of the hunter. The fourth phrase reaffirms what a good dog should be doing—finding game and therefore barking "hua hua." The final phrase refers to the fact that some dogs "lie." That is, they bark "hua hua" even when no animals are present.

As Ventura poured the liquid, Puntero attempted to bark. Because his snout was tied shut, he was unable to do so. When he was finally released, Puntero stumbled off and remained in a daze all day. Such a treatment carries real risks. Many dogs do not survive this ordeal, which highlights how dependent dogs are on exhibiting human qualities for their physical survival. There is no place in Runa society for dogs as animals.

Dogs, however, are not just animals becoming people. They can also acquire qualities of jaguars—the quintessential predators. Like jaguars, dogs are carnivorous. Their natural propensity (when they have not succumbed to domestic laziness) is to hunt animals in the forest. Even when dogs are fed vegetal food, such as palm hearts, the Runa refer to it as meat in their presence.

People in Ávila also see dogs as their potential predators. During the conquest, the Spaniards used dogs to attack the forebears of the Ávila Runa (Oberem 1980:66; see also Ariel de Vidas 2002:538; Schwartz 1997:162–163). Today, this canine predatory nature is acknowledged in a special ritual meal central to a feast held after a person dies. This meal consists of palm hearts. These resemble human bones and serve as a kind of mortuary endocannibalistic substitution for the corpse of the deceased. People at one such feast I observed stressed that under no circumstances must dogs eat them. Dogs, who see palm hearts as meat, are predators par excellence, for, like jaguars and cannibalistic humans, they can come to treat people as prey (see Conklin 2001; Fausto in press).

Dogs, then, can acquire jaguarlike attributes, but jaguars can also become canine. Despite their manifest role as predators, jaguars are also the subservient dogs of the spirit beings who are the masters of the animals in the forest. According to Ventura, "What we think of as a jaguar is actually [the spirit animal master's] dog."

I need to note here that the Ávila Runa often think of spirit animal masters as powerful white estate owners and priests. The game animals the spirits own and protect are likened to the herds of cattle that whites keep on their ranches. The Runa, like the Achuar, about whom Philippe Descola (1994) has written extensively, "socialize" nature by extending human social relations to the beings of the forest. In contrast to the more isolated Achuar, however, the Runa have borne the full brunt of colonial expansion into the Upper Amazon (see Muratorio 1987; Taylor 1999). Accordingly, the vision of society they extend to the realm of the forest includes a sense of their own place in a broader colonial and republican arena. This, then, in part, is why animal masters are white.

As I indicated earlier, the Runa can potentially become were-jaguars. Many Runa, especially those that have developed shamanistic powers, acquire a kind of jaguar habitus. This gives them predatory power when they are alive and allows their souls to inhabit the bodies of jaguars at death. As Ventura explained it to me, with reference to his recently deceased father, when a person "with jaguar" (Quichua, *pumayu*) dies, his or her soul goes to the forest to "become a dog." Were-jaguars become the dogs of the spirit animal masters. That is, they become subservient to them in the same way that the Runa, in everyday life, enter into subservient relations when they go to work as field hands for the estate owners and priests who serve as this-world models for the spirit beings. The were-jaguar, then, is simultaneously Runa, a potent fe-

line predator, and the obedient dog of a white animal master.

Besides being emblematic of the Runa predicament of being simultaneously predator and prey, dominant and submissive, dogs are also extensions of people's actions in the world beyond the village. Because they serve as scouts, often detecting prey well before their masters can, dogs extend Runa predatory endeavors in the forest. They are also, along with the Runa, subject to the same threats of predation by jaguars.²⁵

In addition to the linkages they help the Runa forge with the beings of the forest, dogs also allow them to reach out to that other world beyond the village—the realm of whitemestizo colonists who own ranches near Ávila territory. Ávila dogs are woefully underfed, and, as a result, they are often quite unhealthy. For this reason, they are rarely able to produce viable offspring, and the Runa must often turn to outsiders to obtain pups. A human-induced canine reproductive failure, then, makes the Runa dependent on outsiders for the procreation of their dogs. The Runa also tend to adopt the dog names that colonists use. This practice is a further indicator of how dogs are always links to a broader social world, even when they are also products of a domestic sociability.

As a link between forest and outside worlds, dogs in many ways resemble the Runa who, as "Christian Indians," have historically served as mediators between the urban world of whites and the sylvan one of the "Auca," or non-Christian "unconquered" indigenous peoples, especially the Huaorani (Hudelson 1987; Taylor 1999:195). ²⁶ Until approximately the 1950s, the Runa were actually enlisted by powerful estate owners—ironically, like the mastiffs of the Spanish conquest used to hunt down the Runa forebears—to help them track down and attack Huaorani settlements. ²⁷ And, as ranch hands, they continue to help colonists engage with the forest by, for example, hunting for them.

I should also note that the kinds of dogs that the Runa acquire from colonists do not belong, for the most part, to any recognizable breed. Throughout much of Ecuador, such dogs are disparagingly described as "runa" (as in un perro runa)—that is, as mutts. In Quichua, by contrast, runa means "person." It is used as a sort of pronominal marker of the subject position—for all selves see themselves as persons—and it is only hypostasized as ethnonym in objectifying practices such as ethnography, racial discrimination, and identity politics.²⁸ This Quichua term for *person*, however, has come to be used in Spanish to refer to mongrel dogs.²⁹ It would not be too far a stretch to suggest that runa, for many Ecuadorians, refers to those dogs that lack a kind of civilized status, those sin cultura. Certain kinds of dogs and a certain historical group of indigenous people, the Quichuaspeaking "Runa"—according to a logic that is multicultural, not multinatural—have come to serve as markers along this imagined route from animality to humanity.

A final observation about Runa-dog becomings has important implications for the following discussion: Such becomings often involve an important hierarchical component; humans and dogs are mutually constituted but in ways that are fundamentally unequal for the parties involved (see also Haraway 2003:41, 45). The domestication of dogs, beginning some 15,000 years ago (Savolainen et al. 2002), was dependent, in part, on the fact that the progenitors of dogs were highly social animals that lived in well-established dominance hierarchies. Part of the process of domestication involved replacing the apex of this hierarchy in such a way that dogs would imprint on their human master as the new pack leader. Human-dog becomings are dependent on the ways in which canine and human socialities merge, and they are always predicated, in some measure, on the ongoing establishment of relations of dominance and submission (Ellen 1999:62). In colonial and postcolonial situations, such as that in which the Runa are immersed, this merger acquires renewed meaning. Dogs are submissive to their Runa masters in the same way that the Runa, historically, have been forced to be submissive to white estate owners, government officials, and priests (see Muratorio 1987). This position is not fixed, however. The lowland Runa, in contrast to their highland indigenous Quichua-speaking counterparts, have always maintained a higher degree of autonomy vis-à-vis state authorities. They, and their canine companions, then, are also like powerful predatory jaguars that, for their part, are not just the servile dogs of the animal masters.

Dreaming

The entanglements between the Runa and their dogs entail dangers that must be mitigated. The challenge for the Runa is to avoid the state of monadic isolation that I call "cosmological autism," by which they lose the ability to be aware of the other selves that inhabit the multinatural cosmos—a state that Descola, discussing the Achuar, refers to as the "solipsism of natural idioms" (1989:443). Yet they want to do so without fully dissolving that sort of selfhood distinctive to their position in this cosmos as human beings. Cosmological autism and becoming other are opposite extremes along a continuum that spans the range of ways of inhabiting an ecology of selves. A constant tension, then, exists between ontological blurring and maintaining difference, and the challenge for the Runa is to find ways to maintain this tension without being pulled to either extreme.

Because dreaming is understood to be a privileged mode of communication through which, via souls, contact among beings inhabiting different ontological realms becomes possible, it is an important site for this negotiation. According to the Runa, dreams are the product of the ambulations of the soul. During sleep, the soul separates from the body, its "owner" (duiñu, from the Spanish dueño), and interacts with the souls of other beings. For the Runa, dreams are not rep-

resentations of the world. Rather, they are events that take place in it. As such, they are not exactly commentaries about the future or the past but, more accurately, form part of a single experience that spans temporal domains and states of consciousness.

The vast majority of dreams that people in Ávila discuss are about hunting or other forest encounters. Most are interpreted metaphorically and establish a correspondence between domestic and forest realms. For example, if a hunter dreams of killing a domestic pig, he will kill a peccary (a kind of wild pig) in the forest the following day. The nocturnal encounter is one between two souls—that of the pig and that of the Runa hunter. Killing the pig's nocturnal domestic manifestation, therefore, renders soulless its forest manifestation encountered the following day. Now "autistic," this creature can easily be found in the forest and hunted because it is no longer cognizant of those other selves that might stand to it as predators.

Metaphoric dreams are ways of experiencing certain kinds of ecological connections among different kinds of beings in such a manner that ontological distance is recognized and maintained without losing the possibility for communication. This is accomplished by virtue of the ability of metaphor to unite disparate but analogous, and therefore related, entities. It recognizes a gap as it points to a connection. Under normal waking circumstances, the Runa see peccaries in the forest as wild animals, even though they see them in their dreams as domestic pigs. But the situation is more complicated than this. The spirit animal masters who own and care for these animals (which appear as peccaries to the Runa in their waking lives) see them as their domestic pigs. So, when the Runa dream, they see these animals from the spirit masters' point of view—as domestic pigs. Importantly, the spirit animal masters are considered by the Runa to be ontologically dominant. From the perspective of these masters, the literal ground for the metaphoric relationship between peccary and domestic pig is the animal as domesticate.

What is literal and what is metaphoric shifts. For the animal masters' "nature" is not the ground (cf. Strathern 1980:189); peccaries are really domestic pigs. So one could say that, from the perspective of an animal master, which is the ontologically dominant one and, therefore, the one that carries more weight, a hunter's dream of a pig is the literal ground for which his forest encounter with a peccary the following day is a metaphor. In Ávila, the literal refers to a customary interpretation of the world internal to a given ontological domain. Metaphor, by contrast, is used in Ávila to understand across ontological domains. It, therefore, aligns different ontologically situated points of view. The distinction between figure and ground, then, can change according to context. What stays constant is that metaphor establishes a difference in perspective between beings inhabiting different ontological domains. In this way, it is a crucial brake that the Runa impose on the propensity toward ontological blurring that is inherent to their way of interacting with other kinds of beings.

Talking with dogs

Following the attack on the dogs, several household members dreamed of Hilario's deceased father. They concluded that the feline that killed their dogs had been this man's were-jaguar. Dreaming revealed this being's true identity. Amériga's question, however, remained unanswered. Why did the dogs fail to augur their own deaths? She felt that the dogs' dreams should have revealed the true nature of the forest encounter with the jaguar.

How could Amériga presume to know how her dogs dreamed? To address this question, one must first understand how the Runa talk with their dogs. Talking to dogs is necessary but also dangerous; the Runa do not want to become dogs in the process. Certain modes of communication are important in this delicate cross-species negotiation, and it is to an analysis of these modes that I now turn.

Because of the hierarchical nature of the relations among ontological domains, communication between beings of different status is not reciprocal. The Runa feel they can readily understand the meanings of canine vocalizations. Dogs, however, cannot, under normal circumstances, understand the full range of human speech. As I indicated above, if people want dogs to understand them, they must give dogs hallucinogenic drugs. That is, the Runa must make their dogs into shamans so that they can traverse the ontological boundaries that separate them from humans. I want to revisit in more detail the scene in which Ventura advised his dog. While pouring the hallucinogenic mixture down Puntero's snout, Ventura turned to him and said,

1.1 *ucucha-ta tiu tiu* rodent-ACCUSATIVE chase chases little rodents

1.2 atalpa ama cani-nga chicken NEGATIVE IMPERATIVE bite-3FUTURE it will not bite chickens

1.3 *sinchi tiu tiu* strong chase chases swiftly

1.4 "hua hua" ni-n "hua hua" say-3

it should say "hua hua" (the bark made when dogs are chasing animals)

1.5 ama llulla-nga

NEGATIVE IMPERATIVE lie-3FUTURE

it will not lie (i.e., the dog should not bark as if it were chasing animals when in reality it is not)³¹

I am now in a position to explain why this is an extremely strange way of speaking.³² When advising their dogs, the Runa address them directly but in the third person. This appears to be similar to the Spanish *usted* system, whereby third-person grammatical constructions are used in second-person pragmatic contexts to communicate status. Quichua, however, lacks such a deferential system. Notwithstanding, the Runa tweak Quichua to improvise one. That they are using grammatical constructions in new ways is most evident in line 1.2 above. In Quichua, *ama* is typically used in second-person negative imperatives as well as in negative subjunctives but never in combination with the third-person future marker, as it is used here. I dub this anomalous negative command a "canine imperative."³³

The Runa are faced with the following challenge: For people to communicate with dogs, dogs must be treated as conscious human subjects; yet dogs must simultaneously be treated as objects lest they talk back. This, it appears, is why Ventura used a canine imperative to address Puntero obliquely.³⁴ And this also seems to be part of the reason why Puntero's snout was tied shut during the process. If dogs were to "talk back," people would enter a canine subjectivity, and they would, therefore, lose their privileged status as humans. By tying dogs down, in effect, denying them their animal bodies, the Runa permit a human subjectivity to emerge. Canine imperatives, then, allow the Runa to safely address this partially individuated emerging human self about the partially deindividuated and temporarily submerged canine one.³⁵

The hierarchical relationship that obtains between dogs and humans is analogous to that between humans and the spirit masters of animals. In the same way that people can understand their dogs, animal masters can readily understand the speech of humans—the Runa need only talk to them. Indeed, as I have observed on several occasions, in the forest the Runa address these spirits directly. Under normal circumstances, however, humans cannot readily understand animal masters. Just as dogs require the hallucinogenic mixture tsita to understand the full range of Runa expression, humans also ingest hallucinogens, especially ayahuasca, so that they can converse normally with these spirits.³⁶ The Runa use this opportunity to cement bonds of obligation with the spirit masters so that they, in turn, will allow the Runa to hunt their animals. One important way of establishing such bonds is through the spirit master's daughters. Under the influence of hallucinogens, Runa hunters attempt to establish amorous relations with the daughters so that they will persuade their fathers to give the Runa access to game animals.

The relationship between these spirit lovers and Runa men is very similar to that between the Runa and their dogs. The Runa give advice to their dogs in the third person, and, additionally, they tie their snouts shut, making it impossible for their dogs to respond. For related reasons, a spirit lover never allows her Runa partner to address her by name. Her proper name should only be voiced by other beings from the spirit-master realm and never in the presence of her Runa lovers. Indeed, the Runa know that, as one man told me, "one does not ask their names." Instead, the hunters are only allowed to address their spirit lovers by the title <code>señora</code>. In Ávila, this Spanish term is used to refer to and address white women regardless of marital status. By prohibiting the Runa from addressing them directly, the animal-master's daughters can protect their ontologically privileged perspective as spirits, and, in a sense, also as whites. This is analogous to the ways in which the Runa communicate with their dogs to protect their own special position as humans. ³⁷ At all levels, then, the goal is to be able to communicate across ontological boundaries without destabilizing them.

Transspecies pidgins

The Runa use oblique forms of communication, such as canine imperatives, to place brakes on processes of ontological blurring. Yet the language that they use when talking to their dogs is simultaneously an instantiation of this same process of blurring. Accordingly, I have begun to think of it as a kind of "transspecies pidgin." Like a pidgin, it is characterized by reduced grammatical structure. It is not fully inflected, and it exhibits minimal clause embedding and simplified person marking. Furthermore, pidgins often emerge in colonial situations of contact. Given how, in Ávila, dog–human relations are always already entangled with Runa–white ones, this colonial valence is appropriate.

Indicative of its status as a transspecies pidgin, Runa dog talk incorporates elements of communicative modalities from both human and canine realms. Using Quichua grammar, syntax, and lexicon, it exhibits elements of a human language. It also, however, adopts elements of a preexisting transspecific dog-human language. For example, tiu tiu (line 1.1 above) is used exclusively to spur dogs to chase game and is never used in human-human speech (except in quotation). In keeping with its paralinguistic identity, tiu tiu is not inflected here. This interspecies pidgin also incorporates elements of dog talk. Hua hua (line 1.4 above) is an item from the canine lexicon. The Runa only incorporate it into their utterances through quotation. That is, they would never themselves bark. Hua hua is never inflected and, it is, thus, not fully integrated into human grammar. Both tiu tiu and hua hua involve reduplication, the iconic iteration of sound. This, too, is an important semiotic technique by which the Runa attempt to enter nonhuman, nonsymbolic referential modes.38

The Runa-dog transspecies pidgin is also like "motherese"—that purportedly distinctive form of language that adult caregivers use when speaking to babies—in that it exhibits grammatical simplification and is addressed to a subject that does not have full linguistic capabilities.³⁹

This is an additional way in which it manifests a colonial valence. In many colonial and postcolonial contexts, such as the Ávila one, natives come to be treated as standing to colonists as children stand to adults. For example, during one of my latest trips to Ávila, an engineer from the Ministry of Agriculture (Ministerio de Agricultura y Ganadería) visited the village, along with his wife and children, to confer on it the legal status of "personhood" (personería jurídica) as a state-recognized indigenous community (comuna). Several people told me that he had come to give them "advice," for which they used the verb camachina—a term that is also used to describe how Runa adults counsel children and dogs. In his conversations with me, the engineer, in turn, referred to the inhabitants of Ávila, regardless of age, as "youths" (los jóvenes). He, and his wife—who, fittingly, is a schoolteacher-considered it their civic duty to mold the Ávila Runa into proper (i.e., mature, adult) Ecuadorian citizens. In fact, they insisted on beginning the annual communal meeting with the national anthem, and they spent much of the very long meeting reading and explaining portions of the Ecuadorian constitution and guiding the Runa carefully through the government-mandated guidelines for democratically electing the comuna leaders. With titles such as president, vice president, treasurer, and secretary, these leaders would, ideally, simultaneously reproduce the bureaucratic apparatus of the state in the microcosm of the community and serve as the link between the village and the state. The contours of self, in Ávila, are as much the product of the relations people have with animals as they are the product of these sorts of intimate encounters through which a larger nation-state comes to be manifested in their lives.

The constraints of form

The human-canine transspecies pidgin, like motherese, is oriented toward beings whose linguistic capabilities are in question. Although people in Ávila go through great efforts to make their dogs understand human speech, how they communicate with their dogs must also conform to the exigencies of those species that cannot normally understand human speech, with its heavily symbolic mode of reference. For instance, my cousin Vanessa, who on one occasion visited Ávila with me, was repeatedly bitten on the calf by a young dog that Hilario's son Hilberto had brought back from across the Suno River, where he works as a field hand for colonists. Hilario's family was quite disturbed by this-the dog's "humanity" was at stake and, by extension, that of its masters—and Hilario and his other son Lucio, therefore, gave it the hallucinogenic tsita mixture and proceeded to "give it advice" in much the same way Ventura did Puntero. On this occasion, however, they also took the drugged dog, with its mouth securely tied, and placed its snout against the same spot where it had bitten Vanessa the day before. While they were doing this, Hilario said,

5.1 *amu amu mana canina* [She is a] master, a master and is not to be bitten

5.2 *amu amu amu imapata caparin* [She is a] master, a master, a master, and there is no reason to bark

5.3 *amuta ama caninga* It will not bite the master

Here, in line 5.3, Hilario employs the same negative canine-imperative construction used by Ventura. On this occasion, however, this phrase and the series of utterances in which it is embedded are entangled with an earnest nonlinguistic effort at communication with the dog. Whereas the negative canine imperative—"it will not bite"—responds to the challenge of speaking to the dog in such a way that, under the influence of hallucinogens, it can understand but not respond, reenacting the biting of Vanessa serves as another form of negative canine imperative, in this case, however, not in a symbolic register but in an indexical one. As such, it responds to a different but equally important challenge—how to say "don't" without language.

Bateson notes that among many mammals, including dogs, play entails a kind of paradox. When, for example, dogs play together, they act as if they are fighting. They bite each other but in ways that are not painful: "The playful nip," observes Bateson, "denotes the bite, but it does not denote what would be denoted by the bite" (2000:180). A curious logic is at work here. It is as if, Bateson continues, these animals were saying: " 'These actions in which we now engage do not denote what those actions for which they stand would denote'" (2000:180). Thinking of this semiotically (and here I follow Deacon 1997:403-405), whereas negation is relatively simple to communicate in a symbolic register, it is quite difficult to do so in the indexical communicative modalities typical of nonhuman communication. How does one tell a dog not to bite when the only secure modes of communication available are via likeness and contiguity? How does one negate a resemblance or a relation of contiguity without stepping outside of strictly iconic and indexical forms of reference? Saying "don't" symbolically is simple. Because the symbolic realm has a level of detachment from indexical and iconic realms, it easily lends itself to metastatements of this sort. Via symbolic modalities, negating a statement at a higher interpretive level is relatively easy. But how does one say "don't" indexically? The only way to do so is to re-create the indexical sign, but without its indexical effect.

The only way to indexically convey the pragmatic negative canine imperative "don't bite" (or, in its Runa transspecies pidgin deferential form, "it will not bite") is to reproduce the act of biting, but in a way that is detached from its usual indexical associations. The playful dog nips. This "biting" is an index of a real bite but in a paradoxical way. Although it is an index of a real bite and all of its real

effects, it also forces a break in an otherwise transitive indexical chain. Because of the absence of a bite, play is nothing more than play. The nip is an index of a bite but not an index of what that bite itself indexes. By re-creating the attack on my cousin, Hilario and Lucio attempted to enter into this canine play logic, constrained as it is, by the formal properties characteristic of indexical reference. They forced the dog to bite Vanessa again, but this time with its snout tied shut. Theirs was an attempt to rupture the indexical link between the bite and its implications and, in this way, to tell their dog "don't" through the idiom of a transspecies pidgin that, for the moment, went well beyond language.

If dogs could readily understand humans, there would be no need to give them hallucinogens. The point I want to make is that transspecies pidgins really are middle grounds (see White 1991). It is not enough to imagine how animals speak or to attribute human speech to them. Humans are also confronted by, and forced to respond to, the constraints imposed by the particular characteristics of the semiotic modalities animals use to communicate among themselves. Regardless of its success, Hilario and Lucio's attempt reveals a sensitivity on the part of the Runa to the formal constraints (see Deacon 2003b) of a nonsymbolic semiotic modality.

Nonhuman knowers

In some encounters with nonhumans, how animals represent us makes all the difference. This is evident from the way status is conveyed across species lines through the use of either direct or oblique modes of nonlinguistic communication. This, too, is a parameter of the zone in which canine imperatives operate. For example, according to the Runa, if you encounter a jaguar in the forest, you must never look away. Jaguars kill their prey with a bite to the back of the head. For this reason, I was often admonished never to sleep face down in the forest. By returning the gaze of jaguars, the Runa deny felines the possibility of treating them as prey and they, thus, maintain ontological parity with them as predators. This, too, in a very real sense, is a becoming jaguar. I should note that the word *puma* in Ávila Quichua refers not only specifically to jaguars and related felines but also, more generally, to any being considered a predator. Becoming were-jaguar, that is, becoming "runa puma," as people say (and, Runa, recall, is not only an ethnonym; it also means "person"), is simply a way of striving to secure one's status as predator.40

Whereas *puma* refers to predators—the jaguar being the prototypical exemplar—*aicha*, literally, meat, is how people commonly refer to prey animals, such as an agouti or a peccary. By returning the feline's gaze, the Runa force jaguars to treat them, in a sense, as interlocutors, that is, as subjects. If, by contrast, the Runa look away, they will be treated as, and may actually become, objects—literally, dead meat, aicha (see Figure 4). The linguist Emile Benveniste



Figure 4. Butchered collared peccary—aicha. Photo by E. Kohn.

(1984) notes that the pronouns *I* and *you* position interlocutors intersubjectively through mutual address. Accordingly, he considers these true person pronouns. By contrast, the third person is more accurately a "non-person" (Benveniste 1984:221) because it refers to something outside of the discursive interaction. Extending this reasoning to interspecies communication suggests that just as the Runa, in this forest exchange, become jaguars, so, too, do jaguars become persons.

In such encounters, both the jaguar and the Runa are involved in dangerous acts of representation. How the jaguar interprets the situation has significant consequences. A Runa who is treated by this predator as a predator becomes a predator. Runa who survive such encounters with jaguars are by definition, then, runa puma. And this newfound status translates to other contexts and creates new possibilities.

I want to highlight the radical constructivist implications of the claim I am making. We humans live in a world that is not only built according to how we perceive it and the actions those perceptions inform. Our world is also defined by how we get caught up in the interpretive worlds, the multiple natures—the umwelt—of the other kinds of beings with whom we relate. For this reason, the distinction Ian Hacking (1999:22) makes between the ontologically subjective and the epistemologically objective, to refer to things like rent (which are the products of human practices and, thus, real or objective to us as epistemic creatures even if subjective in a broader ontological sense), has to be expanded to include the constructive "work"—the epistemic construction—that nonhuman selves, such as jaguars, engage in as well.

The claim that humans are not the only knowers points to the limits of Viveiros de Castro's (2004:483-484) multinaturalist critique of our excessive multiculturalist emphasis on epistemology. Although I insist, with him, that anthropology can and should make ontological claims, the solution to the dilemma he points to cannot simply be "richer ontologies" (Viveiros de Castro 2004:484). Rather than turning to ontology as a way of sidestepping the problems with representation, I think it is more fruitful to critique our assumptions about representation (and, hence, epistemology) through a semiotic framework that goes beyond the symbolic. If we see semiosis as neither disembodied (like the Saussurean sign) nor restricted to the human nor necessarily circumscribed by the self-referential properties of symbolic systems that, in any event, are never hermetic, then the epistemology-ontology binary (through which Viveiros de Castro critiques our disproportionate reliance on epistemology) breaks down. Humans are not the only knowers, and knowing (i.e., intention and representation) exists in the world as an other than human, embodied phenomenon that has tangible effects (see Kohn 2005).41

How dogs dream

Jaguars and humans enjoy a sort of parity, according to people in Ávila. For this reason, some people maintain that if they eat lots of hot peppers they can repulse the jaguars they might encounter in the forest because eye contact will burn the jaguar's eyes. By contrast, eye contact with beings of higher ontological levels is dangerous. One should, for example, avoid such contact with the demons (*supaiguna*) that wander the forest. Looking at them causes death because, by entertaining their gaze, one enters their ontological realm—that of the nonliving (see also Viveiros de Castro 1998).

In Ávila, such hierarchy is reflected in modes of communication. Literal communication takes place when one being can entertain the subjective viewpoint of the other. "Higher" beings can readily do this vis-à-vis "lower" ones—as is evident by people's ability to understand dog talk or spirits' ability to hear the supplications of people. Lower ones, however, can only see the world from the perspective of higher beings via privileged vehicles of communication, such as hallucinogens, which can permit contact among souls of beings inhabiting different ontological realms. Without special vehicles of communication, such as hallucinogens, lower beings understand higher ones only through metaphor—that is, through an idiom that establishes connections at the same time that it differentiates.

I can now address the conundrum that I have posed in this article: If metaphor is so important in Runa dreams and in other situations in which ontological difference is recognized, why do the Runa interpret the dreams of their dogs literally?

In a metaphoric human dream, the Runa recognize a gap between their mode of perception and that of the animal masters. Through dreaming, people are able to see the forest as it really is—as the domestic gardens and fallows of the ontologically dominant animal masters. This view, however, is always juxtaposed against how the Runa see the forest in their waking life—as wild. The Runa interpret dog dreams literally because, thanks to the privileged ontological status people enjoy vis-à-vis dogs, they are directly able to see the manifestations of how their dogs' souls experience events. By contrast, the oneiric ambulations of their own souls, which interact with the dominant spirit beings and the animals under those beings' control, do not provide humans this privileged perspective. And this is why their dreams exhibit a metaphoric gap.

In dog dream interpretation, the ontological gaps that are often assiduously respected collapse, at least for a moment, as dogs and people come together as part of a single affective field that transcends their boundaries as species—an emergent and highly ephemeral self distributed over two bodies. ⁴² Amériga's epistemic crisis reveals the tenuous nature but also the stakes of such a project. Dog dreams do not belong only to dogs. Such dreams are also part of the goals,

fears, and aspirations of the Runa—the dogs' masters and occasional "cosmonautical" companions—as they reach out, through the souls of their dogs, to engage with the beings that inhabit the world of the forest and beyond.

Conclusion

By following the interactions that Amériga and her family and neighbors have with their dogs, I hope to have given a glimpse of the kind of anthropology that is possible when we allow the exigencies of a transspecies ethnography to break us out of the loop that traps humans as analytical objects within a framework of analysis that is exclusively human. I also hope to have shown why an appeal to biological reduction is not a viable alternative. Such an approach erases precisely that which is distinctive to humans (language and culture and, by extension, the historical specificity of our engagements with other kinds of beings) and tends to assume that the only thing we share in common with nonhumans is our bodies. Lives are more than bodies, even though they can never fully be disembodied.

The challenges of doing an anthropology of life, which, I believe, these interactions call for, are currently almost insurmountable if we remain confined within our multiculturalist and dualistic framework. By contrast, I have suggested that a more promising approach might be to look to an Amazonian multinaturalist framework, one in which culture—and, by extension, the human—ceases to be the most salient marker of difference. And I have suggested that this can be productively situated within a broader "continuist" semiotic approach that does not take language as its starting point and that can, thus, account more precisely for how our ways of representing are susceptible to the qualities, events, and forms that are in the world, how other selves represent the world, and how we interact with these other selves by virtue of the ways in which our semiotic propensities overlap.

The phenomena I have discussed here are more than cultural, yet they are not exactly noncultural. They are everywhere biological, but they are not just about bodies. Dogs really become human (biologically and in historically very specific ways) and the Runa really become puma; the need to survive encounters with feline semiotic selves requires it. Such becomings change what it means to be alive; they change what it means to be human just as much as they change what it means to be a dog or even a predator.

The approach I advocate seeks to be attentive to the danger-fraught, provisional, and highly tenuous attempts at communication—in short, the politics—involved in the interactions among different kinds of selves that inhabit very different, and often unequal, positions. Runa–dog transspecies pidgins do more than iconically incorporate dog barks, and they do more than invent new human grammars adequate to this risky task of speaking in a way that can be heard across species lines but without invoking a

response. These pidgins also conform to something more abstract about the referential possibilities available to any kind of self, regardless of its ontological status as human, organic, or even terrestrial, and this involves the constraints of certain kinds of semiotic forms. When Hilario attempted to say "don't" without language, he could only really do so in one way. He and his dog fell into a form—one that is instantiated in, but also sustains and exceeds, not only the human but also the animal.

Notes

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- 1. For ethnographic monographs on the Upper Amazonian Ecuadorian Runa, see Whitten 1976, Macdonald 1979, and, most recently, Uzendoski 2005. Muratorio 1987 and Oberem 1980 situate Runa lifeways within colonial and republican history and a broader political economy.
- 2. For an extensive review of recent anthropological scholarship on human–animal relationships, see Molly H. Mullin 1999. As Mullin notes (1999:217–219), most, but certainly not all, such scholarship is still primarily anthropocentric in its overwhelming focus on the human cultural and historical contexts for such relationships, rather than on the emergent dynamics of the relationship itself and how these dynamics draw on factors beyond the human. As far as dogs are concerned, important exceptions to this trend include Smuts 2001 and Haraway 2003.
- 3. I adopt von Uexküll's *umwelt* with awareness of its limitations and historical baggage. Von Uexküll did not use or develop a robust semiotic theory, and the system he proposed was not process oriented. Therefore, he could not account for the dynamics through which umwelts of different organisms might come to exist or change or how they might interact with those of other organisms. Furthermore, because he does not account for how sign production and use are internal to biological dynamics, his system is dependent on the existence of an external watchmaker god figure and on humans as privileged interpreters of the system. Moreover, as Giorgio Agamben (2004:40–42) has noted, umwelt bears a troubling relationship to the Nazi idea of "vital space." These substantial reservations notwithstanding, umwelt does provide an important way to begin to think about nonhuman living beings as selves, and for this reason, I adopt it.
- 4. Examples from Latour's *Science in Action* (1987) of this tendency to see semiosis as something devoid of materiality include

the following: "inscriptions are not the world: they are only representing it in its absence" (p. 247); "semiotic actors presented in the text but not present in the flesh" (p. 64); "When you hold a piece of information you have the *form* of something without the thing itself" (p. 243).

- 5. For Peirce's writings on semiotics, see a series of essays and letter excerpts in Peirce 1998 (esp. chs. 2, 3, 20, 21, 32, and 33). For important highlights, see Peirce 1955:98–119. Peirce's semiotics should be understood within the context of his broader realism, especially his discussions of the place of habit taking in the universe (see esp. Peirce 1992:chs. 18 and 19).
- 6. Deacon (1997) has emphasized the processual nature of semiosis, how symbolic reference is built out of highly convoluted relations among indices, and how indexical reference is built out of icons. This is implicit but not developed in Peirce's work (e.g., Peirce 1998:10; CP 2.302; "CP" references Peirce's *Collected Papers* [1931–35] using the standard form of citation for this source).
- 7. By calling something an "icon," "index," or "symbol," I am, for present purposes, employing shorthand; these terms more accurately refer to a relation. That is, they refer to the ways in which something stands for an object and how this, in turn, is interpreted. Signs are not exactly things. They are, more accurately, interpretive strategies. But as interpretive strategies, they also have a kind of materiality. Different sign vehicles have particular qualities that make them susceptible to the world in certain ways and also susceptible to being interpreted in certain ways. So, for example, although a photograph of a person does possess its own properties that make it likely to be interpreted as a likeness of that person, it is an icon only by virtue of its interpretation as such. Similarly, the cryptic coloration of a lizard's skin can only be said to be iconic of the background environment it represents because, over evolutionary time, potential predators of lizards have repeatedly "interpreted" it as such by failing to distinguish such lizards from, say, the mottled detritus of the forest floor. Peirce developed an elaborate taxonomy of signs that expands on the fundamental icon-index-symbol trichotomy (see CP 2.233-2.272; also as Peirce 1998:ch. 21).
- 8. Emergence as an analytical approach, as defined by Deacon, involves an accounting not only of the unprecedented relations of form, which give rise to what one may consider novel phenomena and novel causal loci, but also of how these grow out of and are constantly imbricated with more fundamental processes. As Hirokazu Miyazaki and Annelise Riles (2005:327) have indicated, "emergence" in the anthropological literature is often problematically used as a synonym for "indeterminacy" and unanalyzable "complexity." This is not how I use it here. Emergentist explanations must account for novelty as well as continuity.
- 9. Janis B. Nuckoll's (1996) analysis of lowland Quichua sound iconicity and Frank Salomon's (2004) monumental work on khipus and other Andean inscription systems that are not based on language are important examples of in-depth studies of sophisticated South American paralinguistic referential systems.
- 10. On the importance of continuity among different phenomena, see Peirce's "The Law of Mind" (CP 6.102–6.163; also as Peirce 1992:ch. 23) and "Immortality in the Light of Synechism" (CP 7.565–7.578; also as Peirce 1998:ch. 1). On the importance of continuity between human and nonhuman ways of seeing the world and the importance of semiotic mediation in knowing nonhuman selves, see especially CP 1.314.

By recognizing that human semiosis is embodied and that it both exceeds and includes the symbolic, we no longer need to posit an anthropology of the sensual body to counter the deficits of one that focuses on ethereal signs or disembodied meanings (Csordas 1994:4; for a historical review of such approaches as a solution to this kind

of dualism, see Csordas 1999). Bodily dispositions are semiotic even though they are not necessarily conscious or discursive. Semiosis is always embodied, even though some sign processes are more so than others. Furthermore, all sensing is already semiotic, even though it is not languagelike.

11. "Life" has increasingly become an important focus of study for anthropologists and other social theorists. Much of this current interest grows out of a "biopolitical" critique of contemporary politics and modes of governance (see Agamben 1998; Foucault 1978; Rabinow 1996). Following Michel Foucault's (1994:127-128) interest in how "life" and "biology" have only come to function as important categories of thought since the 19th century, this approach traces the disturbing ways in which "life itself" (see Franklin 2000) has acquired increasing importance in the modern era and how a reduced vision of biological life-what Agamben (1998) calls "bare life"—has become the site for governmentality. That is, bodies and populations, health and its related institutions, and biomedical and genomic research are now the primary arenas for defining the human and for controlling how people live. In many ways, then, life has "become its own value" in modernity (Stevenson 2005:9), and this feature might even be productively thought of as defining what it means to be modern (Arendt 1959:286-293).

Biopolitical analyses following in the tradition of Foucauldian geneology point to a set of historical continuities. They trace the ways in which "life" has come to have a particular valence in the modern world. Ultimately, biopolitical critique pushes us to ask, is there a better way to think about life (Stevenson 2005:223–252)? I argue that there is, and this article is an attempt to adumbrate the contours of one such understanding.

To do so, I use the term *anthropology of life* to point to a different set of continuities that link all lifeforms. Defining life as a distinctive ontological domain and not just as a discursive field, as I do here, is a way to delimit the set of those entities that share a unique defining characteristic—namely, that they all represent the world—and to trace the effects this has for us humans and, by extension, for how we might rethink "the human." Semiosis is something we uniquely share with all other life forms and this characteristic exceeds the representational frameworks distinctive to us—including our historically circumscribed discourses involving life.

- 12. My insistence on recognizing the theoretical stakes—under the banner of an anthropology of life—for delineating the unique formal features of life, how we humans partake of these, and to what extent they exceed us, draws inspiration from Gregory Bateson. Especially important is the distinction he recognizes between what he calls "pleuroma" and "creatura" (Bateson 2000:462–463). *Pleuroma* refers to the physical realm of cause and effect. *Creatura* refers to the realm of life in which what he calls "mind" has its own causal efficacy, one that depends on the ways in which "difference" "makes a difference" (Bateson 2000:459)—that is, on semiotic interpretance.
 - 13. For a discussion of "zoo-semiotics," see Sebeok 1977.
- 14. See Latour 2004:48 and Strathern 1999:252 for examples of the ways in which multinatural critiques of multiculturalism have found traction beyond Amazonia.
- 15. I appropriate *becoming* from Deleuze and Guattari 1987. In this article, I do not trace out the complexities of their use of this term or my differences with the framework they employ. I simply use the term to show how one important effect of embodied semiotic interaction among selves is the dissolution of their discrete identities
- 16. The Quichua word for *soul* is *alma*, from the Spanish. For Quichua words, I have adopted from Orr and Wrisley 1981 a practical orthography based on Spanish. Stress is generally on the penultimate syllable.



- 17. The Quichua word for *conscious* is *yuyaihuan*, which implies the ability to think, judge, or react to circumstances.
- 18. To "become aware of" can be translated into Quichua as *riparana*, "to reflect on," "attend to," or "consider."
- 19. Examples of cosmological autism include the following (note here how humans and nonhumans alike can become "autistic" and impart "autism"):
 - 1. The hallucinogen ayahuasca can have its soul stolen by shamans and thus become "autistic"; ingesting it no longer permits awareness of other souls.
 - 2. The ghost of the deceased (*aya*) is bereft of a soul. Such a being is "autistic"; it lacks the ability to engage in normative social relationships with its living relatives (and is, therefore, seen as dangerous).
 - 3. Sorcery darts (biruti) are propelled toward their victim by the shaman's soul-containing life breath (samai). When darts lose this breath they become "autistic"; they are no longer directed at a specific subject but travel aimlessly, causing harm to anyone who happens across their path.
 - 4. "Autism" can be imparted by extracting life breath through the fontanel (Quichua, *curuna*) of the skull:
 - a. The jaguar that killed the dogs belonging to Hilario's family was described as having "bit them with a *ta'* on their animal-following crowns" [catina curunashtumandami ta' canisca]. *Ta'* iconically describes "the moment of contact between two surfaces, one of which, typically, is manipulated by a force higher in agency than the other" (Nuckolls 1996:178). This precisely captures the way in which the jaguar's canines impacted and then penetrated the dogs' skulls. That people in Ávila consider such a bite lethal has much to do with the ways in which the crown of the skull permits intersubjectivity. Death, then, was the result of a complete loss of the dogs' "animal-following" capabilities—the radical and instantaneous imposition of total "autism."
 - b. Adults punish children by pulling at tufts of their hair until a snapping sound is made; these children become temporarily "autistic"—they become dazed and unable to interact with others.
 - 5. Semen carries soul substance to a developing fetus. Expectant fathers (both human and nonhuman) become "autistic" during gestation; they lose the ability to detect animals and can no longer hunt (e.g., Puntero's inability to hunt as discussed in the "Dog–human entanglements" section of this article).
 - 6. Men who kill the souls of animals in their dreams can easily hunt them the following day because these animals, now soulless, have become "autistic"; they are no longer able to detect predators (see the "Dreaming" section of this article).
- 20. The scenario Raymond and Lorna Coppinger (2002) posit of canine self-domestication around human garbage dumps and their related studies of Latin American dog packs highlight this element of dog behavior, which is not structured by the intentions and desires of humans.
- 21. The main ingredient is the inner bark scrapings of the understory tree tsita (*Tabernaemontana sananho*, Apocynaceae). Other ingredients include tobacco and *lumu cuchi huandu* (*Brugmansia* sp., Solanaceae), a special canine variety of a very powerful belladonna-related narcotic sometimes used by Runa shamans.

- 22. Dogs partake of the following human qualities:
 - 1. Unlike animals, they are expected to eat cooked food.
 - 2. Some Runa believe they have souls that are capable of ascending to the Christian heaven.
- 3. They acquire the dispositions of their masters—mean owners have mean dogs.
- 4. Dogs and children who become lost in the forest become "wild" (Quichua, *quita*) and, therefore, frightened of people.
- 23. In fact, mythic man-eating jaguars are said to refer to humans as "palm hearts." Palm hearts eaten in everyday meals are finely chopped. In the funerary meal, they are served in long tubular pieces, emphasizing their bonelike qualities.
- 24. These are known in Ávila as forest lords (sacha curagaguna) or as forest masters (sacha amuguna).
- 25. Illustrating dogs' extensions of people's selfhood, the Runa sometimes compare dogs to guns, the implication being that, like these arms, dogs extend people's hunting capacities. Both guns and dogs can become defiled in similar ways. Tools that are used for hunting, trapping, or fishing can become "ruined" unless steps are taken to correctly dispose of the bones of the animals that were killed with them. When dogs kill an animal, such as the deer that Hilario's dogs killed shortly before their deaths, one must similarly dispose of the bones, otherwise the dogs' "noses become stopped up," as Hilario noted, thus making them unable to become aware of the presence of prey.
- 26. I am sympathetic to Michael Uzendoski's (2005:164-165) efforts to highlight contemporary lowland Runa political agency and cultural vitality. He is surely correct to note that predictions of the demise of Quichua culture and the loss of Runa political agency are not only premature but also denigrating and disempowering. Nevertheless, colonial categories used historically to describe the Runa, such as "Christian" and "manso" (tame, Quichua, mansu), as opposed to "infidel" (auca) and "wild" (quita), however problematic (Uzendoski 2005:165), cannot be so easily discarded because, in Ávila at least, they currently constitute the idiom through which a certain kind of agency, albeit one that is not so overtly visible, is manifested. In this regard, Judith Butler has encouraged a move beyond an oppositional model of agency, in which the only choice is between acculturation and resistance, as the basis for politics. She does so to call attention to how subjects do not precede the power relations out of which they are formed (Butler 1997:1-2). Yet, as she notes, there remains a way of acting by harnessing these very structures. The dog-jaguar-were-jaguar complex I have described is an illustration of this dynamic. In the Runa region of Amazonia, however, subjection—that is, the ways in which subjects are formed within power structures—is quite different from what political theorists might imagine because it operates within a multinatural rather than a multicultural logic. Such a logic rearranges what is meant by categories such as "subject," "person," "race," and "body." In a world in which shamanistic bodily metamorphosis is an everyday political strategy—in a world in which people can don a jaguar as well as a "white" habitus much like they might an item of clothing (see Kohn 2002:ch. 7; Vilaça 1999; Viveiros de Castro 1998)—subjection comes to mean something altogether different.
- 27. I thank Manuela Carneiro da Cunha for reminding me of this background, to which several Ávila oral histories that I have collected attest. See also Blomberg 1957 for eyewitness written accounts and photographs of such expeditions.
- 28. People in Ávila refer to other Quichua speakers from nearby communities as, for example, the San José Runa, the Loreto Runa,

and so on. They do not use the term <code>Runa</code> to refer to nonindigenous, non-Quichua groups (although when they mean lit. <code>man</code> or <code>person</code>, they do use this term). They would never use the term to describe themselves in the way that I am doing—as "the Runa." Neither do they use the term <code>Kichwa</code>, the ethnonym currently employed in the contemporary indigenous political movement. As Viveiros de Castro has pointed out, terms such as <code>Runa</code>, which simply means <code>person</code>, are used throughout Amazonia as a kind of pronoun to mark the subject position in a multinatural ontology in which all beings see themselves as persons. For this reason, "ethnonyms are names for third parties; they belong to the category of 'they' not the category of 'we'" (Viveiros de Castro 1998:476). It is not a question, then, of what ethnonym to use, but a question of whether any ethnonym, according to this system, captures the "we" point of view.

- 29. The term *runa* is also used to describe cattle that do not belong to any identifiable breeds. It is also used to describe anything that is considered pejoratively as having supposedly "Indian" qualities (e.g., items that are considered shabby or dirty).
 - 30. The following are examples of this canine lexicon:

aı

after having detected the scent of an animal

ja or hua

following game

a au

after game has been treed

ya ya ya (or, alternatively, yau yau yau oryag yag yag)

when about to bite game

huao

confronting a jaguar and frightened

cuhuai cuhuai

when the dog is caught in the claws of a jaguar and about to be bitten

ava–i

when the dog is bitten

aya-i aya-i (in rapid succession)

when the dog is bitten and in great pain

- 31. *Ucucha*, in 1.1, refers to the class of small rodents that includes mice, rats, spiny rats, and mouse opossums. It is a euphemism for *sicu*, the class of large edible rodents that includes the agouti, paca, and agouchy.
- 32. The following is another example from Ávila, not discussed in the body of this article, of giving advice to dogs using canine imperatives while administering tsita:
 - 2.1 tiutiu-nga ni-sa

chase-3FUTURE say-COREFERENTIAL

thinking/desiring it will chase

2.2 ama runa-ta capari-nga ni-sa

NEGATIVE IMPERATIVE person-ACCUSATIVE bark-3-

FUTURE say-COREFERENTIAL

thinking/desiring it will not bark at people

- 33. I thank Bill Hanks for suggesting this term.
- 34. Regarding the anomalous use of a negative imperative in combination with a third-person future marker in line 1.2 in the text (cf. lines 1.5 and 5.3 in the text, and 2.2 in N. 32), the following

are related constructions that would be considered grammatically correct in everyday Ávila Quichua:

If addressed to a dog in the second person:

3 atalpa-ta ama cani-y-chu chicken-ACCUSATIVE NEGATIVE IMPERATIVE bite-2-IMPERATIVE-NEGATIVE

don't bite chickens

If addressed to another person about a dog:

 $4a\ atalpa-ta\ mana\ cani-nga-chu$

chicken-ACCUSATIVE NEGATIVE bite-3FUTURE-

NEGATIVE

it will not bite chickens

or

4b atalpa-ta ama cani-chun

chicken-ACCUSATIVE NEGATIVE bite-SUBJUNCTIVE

so that it doesn't bite chickens

- 35. I have heard a few reports and legends of Runa men undressing themselves before fighting off jaguars they encounter in the forest. By doing so, they remind the jaguar that beneath its feline bodily habitus—which can be "divested" like clothing—it, too, is human (cf. Wavrin 1927:335).
- 36. Ayahusaca is produced from the liana *Banisteriopsis caapi* (Malpighiaceae), sometimes mixed with other ingredients.
- 37. According to Janis Nuckolls (personal communication, January 21, 2004), Quichua speakers from the Pastaza region of Amazonian Ecuador refer to or address these spirits in songs using third-person-future constructions. This is another reason for suspecting that the use of *señora* to address spirit lovers in Ávila is related to the use of canine imperatives.
- 38. This technique is frequently used in imitating birdcalls and in onomatopoeic bird names in Ávila (see also Berlin 1992; Berlin et al. 1981).
- 39. On the challenges of an ethnography of infants and the problematic roles that language and culture play in ethnographic analysis involving these other kinds of beings who do not speak, see Gottlieb
- 40. An animal behavior researcher who was attacked by wolves describes how he was spared being mauled by assuming a submissive posture, which, in large part, involved avoiding eye contact with the wolves:

I froze in place and huddled down to make myself small—all the while making whines and whimpering sounds, like a frightened and submissive cub. Although they immediately broke off the attack, the male came right in front of my face, gazing directly into my eyes and snarling. I responded by averting my eyes and avoiding any eye contact while still continuing to whine. [Coren 2000:10]

- 41. For a fascinating discussion, based on rich field observations, of the differences between nonhuman and human intentionality see Cheney and Seyfarth 1990. See also the work of Daniel Clement Dennett (e.g., 1996), although I should note that I differ with him on what systems should count as intentional and on the ontological status of intentionality.
- 42. On distributed selfhood, see CP 3.613, 5.421, 7.572. See also Strathern 1988:162 and, for a somewhat different take, Gell 1998.
- $43.\,$ For the semiotic constraints of extraterrestrial grammars, see Deacon 2003b.



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