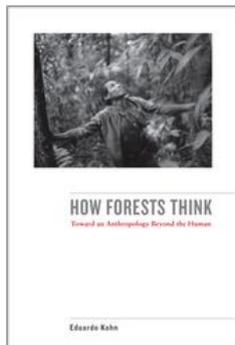


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How Forests Think: Toward an Anthropology Beyond the Human

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The Open Whole

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[-] Abstract and Keywords

This chapter shows that the recognition of representational processes as something unique to, and in a sense even synonymous with, life allows us to situate distinctively human ways of being in the world as both emergent from and in continuity with a broader living semiotic realm. Opening the symbolic, through this exploration of signs beyond the symbolic, forces us to ponder what we might mean by the “real,” given that the hitherto secure foundations for the real in anthropology—the “objective” and the contextually constructed—are destabilized by the strange and hidden logics of those signs that emerge, grow, and circulate in a world beyond the human.

Keywords: representational processes, life, being, symbolic, anthropology, human

By a feeling I mean an instance of that sort of element of consciousness which is all that it is positively, in itself regardless of anything else.... [A] feeling is absolutely simple and without parts—as it evidently is, since it is whatever it is regardless of anything else, and therefore regardless of any part, which would be something other than the whole.

—Charles Peirce, *The Collected Papers* 1.306–10

One evening while the grown-ups gathered around the hearth drinking manioc beer, Maxi, settling back to a quieter corner of the house, began to tell his teenage neighbor Luis and me about some of his recent adventures and mishaps. Fifteen or so and just beginning to hunt on his own, he told us of the day he stood out in the forest for what seemed an eternity, waiting for something to happen, and how, all of a sudden, he found himself close to a herd of collared peccaries moving through the underbrush. Frightened, he hoisted himself into the safety of a

little tree and from there fired on and hit one of the pigs. The wounded animal ran off toward a little river and ... “*tsupu*.”

Tsupu. I’ve deliberately left Maxi’s utterance untranslated. What might it mean? What does it sound like?

Tsupu, or *tsupuuu^h*, as it is sometimes pronounced, with the final vowel dragged out and aspirated, refers to an entity as it makes contact with and then penetrates a body of water; think of a big stone heaved into a pond or the compact mass of a wounded peccary plunging into a river’s pool. *Tsupu* probably did not immediately conjure such an image (unless you speak lowland Ecuadorian Quichua). But what did you feel upon learning what it describes? Once I tell people what *tsupu* means, they often experience a sudden feel for its meaning: “Oh, of course, *tsupu!*”

(p.28) By contrast, I would venture that even after learning that the greeting “*causanguichu*,” used when encountering someone who hasn’t been seen in a long time, means “Are you still alive?” you don’t have such a feeling. *Causanguichu* certainly feels like what it means to native speakers of Quichua, and over the years I too have come to develop a feel for its meaning. But what is it about *tsupu* that causes its meaning to feel so evident even for many people who don’t speak Quichua? *Tsupu* somehow feels like a pig plunging into water.

How is it that *tsupu* means? We know that a word like *causanguichu* means by virtue of the ways in which it is inextricably embedded, through a dense historically contingent tangle of grammatical and syntactic relations, with other such words in that uniquely human system of communication we call language. And we know that what it means also depends on the ways in which language is itself caught up in broader social, cultural, and political contexts, which share similar historically contingent systemic properties. In order to develop a feel for *causanguichu* we have to grasp something of the totality of the interrelated network of words in which it exists. We also need to grasp something of the broader social context in which it is and has been used. Making sense of how we live inside these kinds of changing contexts that we both make and that make us has long been an important goal of anthropology. For anthropology the “human,” as a being and an object of knowledge, emerges only by attending to how we are embedded in these uniquely human contexts—these “complex wholes” as E.B. Tylor’s (1871) classic definition of culture terms them.

But if *causanguichu* is firmly in language, *tsupu* seems somehow outside it. *Tsupu* is a sort of paralinguistic parasite on the language that somewhat indifferently bears it. *Tsupu* is, in a way, as Peirce might say, “all that it is positively, in itself, regardless of anything else.” And this admittedly minor fact, that this strange little quasi-word is not quite made by its linguistic context, troubles the anthropological project of making sense of the human via context.

Take *causanguichu*’s, root, the lexeme *causa-*, which is marked for person and inflected by a suffix that signals its status as a question:

causa-ngui-chu

live-2-INTER¹
Are you still alive?

Through its grammatical inflections *causanguichu* is inextricably related to the other words that make up the Quichua language. *Tsupu*, by contrast, doesn't (p.29) really interact with other words and therefore can't be modified to reflect any such possible relations. Being "all that it is positively in itself," it can't even be grammatically negated. What kind of thing, then, is *tsupu*? Is it even a word? What does its anomalous place in language reveal about language? And what can it tell us about the anthropological project of grasping the various ways in which linguistic as well as sociocultural and historical contexts form the conditions of possibility both for human life and for our ways of attending to it?

Although not exactly a word, *tsupu* certainly is a sign. That is, it certainly is, as the philosopher Charles Peirce put it, "something which stands to somebody for something in some respect or capacity" (CP 2.228). This is quite different from Saussure's (1959) more humanist treatment of signs with which we anthropologists tend to be more familiar. For Saussure human language is the paragon and model for all sign systems (1959: 68). Peirce's definition of a sign, by contrast, is much more agnostic about what signs are and what kinds of beings use them; for him not all signs have languagelike properties, and, as I discuss below, not all the beings who use them are human. This broader definition of the sign helps us become attuned to the life signs have beyond the human as we know it.

Tsupu captures to some extent and in some particular way something of a pig plunging into water, and it does so—weirdly—not just for Quichua speakers, but to some degree for those of us who may not have any familiarity with the language that carries it along.² What might paying attention to this not-quite-wordlike-kind-of-sign reveal? Feeling *tsupu*, "in itself, regardless of anything else," can tell us something important about the nature of language and its unexpected openings toward the world "itself." And insofar as it can help us understand how signs are not just bounded by human contexts, but how they also reach beyond them. Insofar, that is, as it can help reveal how signs are also in, of, and about other sensuous worlds that we too can feel, it can also tell us something about how we can move beyond understanding the human in terms of the "complex wholes" that make us who we are. In sum, appreciating what it might mean "to live" (Quichua *causa-ngapa*) in worlds that are open to that which extends beyond the human might just allow us to become a little more "worldly."³

In and of the World

In uttering "tsupu," Maxi brought home something that happened in the forest. Insofar as Luis, or I, or you, feel *tsupu* we come to grasp something of Maxi's (p.30) experience of being near a wounded pig plunging into a pool of water. And we can come to have this feeling even if we weren't in the forest that day. All signs, and not just *tsupu*, are in some way or another about the world in this sense. They "re-present." They are about something not immediately present.

But they are also all, in some way or another, in and of the world. When we think of situations in which we use signs to represent an event, such as the one I've just described, this quality may be hard to see. Sitting back in a dark corner of a thatched roof house listening to Maxi talk about the forest is not the same as having been present to that pig plunging into water. Isn't this

“radical discontinuity” with the world another important hallmark of signs?⁴ Insofar as signs do not provide any sort of immediate, absolute, or certain purchase on the entities they represent, it certainly is. But the fact that signs always mediate does not mean that they also necessarily exist in some separate domain inside (human) minds and cut off from the entities they stand for. As I will show, they are not just about the world. They are also in important ways in it.

Consider the following. Toward the end of a day spent walking in the forest, Hilario, his son Lucio, and I came upon a troop of woolly monkeys moving through the canopy. Lucio shot and killed one, and the rest of the troop dispersed. One young monkey, however, became separated from the troop. Finding herself alone she hid in the branches of an enormous red-trunked tree that poked out of the forest canopy high above.⁵

In the hope of startling the monkey into moving to a more visible perch so that his son could shoot it Hilario decided to fell a nearby palm tree:

look out!
ta ta
I'll make it go *pu oh*
watch out!⁶

Ta ta and *pu oh*, like *tsupu*, are images that sound like what they mean. *Ta ta* is an image of chopping: tap tap. *Pu oh* captures the process by which a tree falls. The snap that initiates its toppling, the swish of the crown free-falling through layers of forest canopy, and the crash and its echoes as it hits the ground are all enfolded in this sonic image.

Hilario then went and did what he said. He walked off a little way and with his machete began chopping rhythmically at a palm tree. The tapping of steel against trunk is clearly audible on the recording I made in the forest that afternoon (*ta ta ta ta...*)—as was the palm crashing down (*pu oh*).

(p.31) Lowland Quichua has hundreds of “words” like *ta ta*, *pu oh*, and *tsupu* that mean by virtue of the ways in which they sonically convey an image of how an action unfolds in the world. They are ubiquitous in speech, especially in forest talk. A testament to their importance to Runa ways of being in the world is that the linguistic anthropologist Janis Nuckolls (1996) has written an entire book—titled, appropriately, *Sounds Like Life*—about them.

A “word” such as *tsupu* is like the entity it represents thanks to the ways in which the differences between the “sign vehicle” (i.e., the entity that is taken as a sign, in this case the sonic quality of *tsupu*)⁷ and the object (in this case the plunging-into-water that this “word” simulates) are ignored.⁸ Peirce called these kinds of signs of likeness “icons.” They conform to the first of his three broad classes of signs.

As Hilario had anticipated, the sound of the palm tree crashing frightened the monkey from her perch. This event itself, and not just its before-the-fact imitation, can also be taken as a kind of sign. It is a sign in the sense that it too came to be “something which stands to somebody for something in some respect or capacity.” In this case the “somebody” to whom this sign stands is not human. The palm crashing down stands for something to the monkey. Significance is not the

exclusive province of humans because we are not the only ones who interpret signs. That other kinds of beings use signs is one example of the ways in which representation exists in the world beyond human minds and human systems of meaning.

The palm crashing down becomes significant in a way that differs from its imitation *pu oh*.⁹ *Pu oh* is iconic in the sense that it, in itself, is in some respect like its object. That is, it functions as an image when we fail to notice the differences between it and the event that it represents. It means due to a certain kind of absence of attention to difference. By ignoring the myriad characteristics that make any entity unique, a very restricted set of characteristics is amplified, here by virtue of the fact that the sound that simulates the action also happens to share these characteristics.

The crashing palm itself comes to signify something for the monkey in another capacity. The crash, as sign, is not a likeness of the object it represents. Instead, it points to something else. Peirce calls this sort of sign an “index.” Indices constitute his second broad class of signs.

Before exploring indices further, I want to briefly introduce the “symbol”—Peirce’s third kind of sign. Unlike iconic and indexical modes of reference, which form the bases for all representation in the living world, symbolic **(p.32)** reference is, on this planet at least, a form of representation that is unique to humans. Accordingly, as anthropologists of the human we are most familiar with its distinctive properties. Symbols refer, not simply through the similarity of icons, or solely through the pointing of indices. Rather, as with the word *causanguichu*, they refer to their object indirectly by virtue of the ways in which they relate systemically to other such symbols. Symbols involve convention. This is why *causanguichu* only means—and comes to feel meaningful—by virtue of the established system of relationships it has with other words in Quichua.

The palm that Hilario sent crashing down that afternoon startled the monkey. As an index it forced her to notice that something just happened, even though what just happened remained unclear.¹⁰ Whereas icons involve not noticing, indices focus the attention. If icons are what they are “in themselves” regardless of the existence of the entity they represent, indices involve facts “themselves.” Whether or not someone was there to hear it, whether or not the monkey, or anyone else for that matter, took this occurrence to be significant, the palm, itself, still came crashing down.

Unlike icons, which represent by virtue of the resemblances they share with objects, indices represent “by virtue of real connections to them” (Peirce 1998c: 461; see also CP 2.248). Tugging on the stems of woody vines, or lianas, that extend up into the canopy is another strategy to scare monkeys out of their hidden perches (see frontispiece, this chapter). To the extent that such an action can startle a monkey it is because of a chain of “real connections” among disparate things: the hunter’s tug is transmitted, via the liana, high up to the tangled mat of epiphytes, lianas, moss, and detritus that accumulates to form the perch atop which the hiding monkey sits.

Although one might say that the hunter’s tug, propagated through the liana and mat, literally shakes the monkey out of her sense of security, how this monkey comes to take this tug as a sign cannot be reduced to a deterministic chain of causes and effects. The monkey need not necessarily perceive the shaking perch to be a sign of anything. And in the event that she does,

her reaction will be something other than the effect of the force of the tug propagated up the length of the liana.

Indices involve something more than mechanical efficiency. That something more is, paradoxically, something less. It is an absence. That is, to the extent that indices are noticed they impel their interpreters to make connections between some event and another potential one that has not yet occurred. **(p.33)** A monkey takes the moving perch, as sign, to be connected to something else, for which it stands. It is connected to something dangerously different from her present sense of security. Maybe the branch she is perched on is going to break off. Maybe a jaguar is climbing up the tree ... Something is about to happen, and she had better do something about it. Indices provide information about such absent futures. They encourage us to make a connection between what is happening and what might potentially happen.

Living Signs

Asking whether signs involve sound images like *tsupu*, or whether they come to mean through events like a palm crashing down, or whether their sense emerges in some more systemic and distributed manner, like the interrelated network of words printed on the pages that make up this book, might encourage us to think about signs in terms of the differences in their tangible qualities. But signs are more than things. They don't squarely reside in sounds, events, or words. Nor are they exactly in bodies or even minds. They can't be precisely located in this way because they are ongoing relational processes. Their sensuous qualities are only one part of the dynamic through which they come to be, to grow, and to have effects in the world.

In other words signs are alive. A crashing palm tree—taken as sign—is alive insofar as it can grow. It is alive insofar as it will come to be interpreted by a subsequent sign in a semiotic chain that extends into the possible future.

The startled monkey's jump to a higher perch is a part of this living semiotic chain. It is what Peirce called an "interpretant," a new sign that interprets the way in which a prior sign relates to its object.¹¹ Interpretants can be further specified through an ongoing process of sign production and interpretation that increasingly captures something about the world and increasingly orients an interpreting self toward this aboutness. Semiosis is the name for this living sign process through which one thought gives rise to another, which in turn gives rise to another, and so on, into the potential future.¹² It captures the way in which living signs are not just in the here and now but also in the realm of the possible.

Although semiosis is something more than mechanical efficiency, thinking is not just confined to some separate realm of ideas.¹³ A sign has an effect, and this, precisely, is what an interpretant is. It is the "proper significate effect that the sign produces" (CP 5.475). The monkey's jump, sparked by her reaction to **(p.34)** a crashing palm, amounts to an interpretant of a prior sign of danger. It makes visible an energetic component that is characteristic of all sign processes, even those that might seem purely "mental."¹⁴ Although semiosis is something more than energetics and materiality, all sign processes eventually "do things" in the world, and this is an important part of what makes them alive.¹⁵

Signs don't come from the mind. Rather, it is the other way around. What we call mind, or self, is a product of semiosis. That "somebody," human or nonhuman, who takes the crashing palm to be significant is a "self that is just coming into life in the flow of time" (CP 5.421) by virtue of the ways in which she comes to be a locus—however ephemeral—for the "interpretance" of this sign and many others like it. In fact, Peirce coined the cumbersome term *interpretant* to avoid the "homunculus fallacy" (see Deacon 2012: 48) of seeing a self as a sort of black box (a little person inside us, a homunculus) who would be the interpreter of those signs but not herself the product of those signs. Selves, human or nonhuman, simple or complex, are outcomes of semiosis as well as the starting points for new sign interpretation whose outcome will be a future self. They are waypoints in a semiotic process.

These selves, 'just coming into life,' are not shut off from the world; the semiosis occurring "inside" the mind is not intrinsically different from that which occurs among minds. That palm crashing down in the forest illustrates this living worldly semiosis as it is embedded in an ecology of disparate emerging selves. Hilario's iconic simulation of a falling palm charts a possible future that then becomes realized in a palm that he actually fells. Its crash, in turn, is interpreted by another being whose life will change thanks to the way she takes this as a sign of something upon which she must act. What emerges is a highly mediated but nevertheless unbroken chain that jumps from the realm of human speech to that of human bodies and their actions, and from these to events-in-the-world such as a tree crashing down that these realized embodied intentions actualize, and from here to the equally physical reaction that the semiotic interpretation of this event provokes in another kind of primate high up in a tree. The crashing palm and the human who felled it came to affect the monkey, notwithstanding their physical separation from her. Signs have worldly effects even though they are not reducible to physical cause-and-effect.

Such tropical trans-species attempts at communication reveal the living worldly nature of semiosis. All semiosis (and by extension thought) takes place in minds-in-the-world. To highlight this characteristic of semiosis this is how (p.35) Peirce described the thought practices of Antoine Lavoisier, the eighteenth-century French aristocrat and founder of the modern field of chemistry:

Lavoisier's method was ... to dream that some long and complicated chemical process would have a certain effect, to put it into practice with dull patience, after its inevitable failure, to dream that with some modification it would have another result, and to end by publishing the last dream as a fact: his way was to carry his mind into his laboratory, and literally to make of his alembics and cucurbits instruments of thought, giving a new conception of reasoning as something which was to be done with one's eyes open, in manipulating real things instead of words and fancies. (CP 5.363)

Where would we locate Lavoisier's thoughts and dreams? Where, if not in this emerging world of blown glass cucurbits and alembics and the mixtures contained in their carefully delimited spaces of absence and possibility, is his mind, and future self, coming in to being?

Absences

Lavoisier's blown glass flasks point to another important element of semiosis. Like these curiously shaped receptacles, signs surely have an important materiality: they possess sensuous

qualities; they are instantiated with respect to the bodies that produce and are produced by them; and they can make a difference in the worlds that they are about. And yet, like the space delimited by the walls of the flask, signs are also in important ways immaterial. A glass flask is as much about what it is as it is about what it is not; it is as much about the vessel blown into form by the glassmaker—and all the material qualities and technological, political, and socioeconomic histories that made that act of creation possible—as it is about the specific geometry of absence that it comes to delimit. Certain kinds of reactions can take place in that flask because of all the others that are excluded from it.

This kind of absence is central to the semiosis that sustains and instantiates life and mind. It is apparent in what played out in the forest that afternoon as we were out hunting monkeys. Now that that young woolly monkey had moved to a more exposed perch Lucio tried to shoot at it with his muzzle-loading black powder shotgun. But when he pulled the trigger the hammer simply clicked down on the firing cap. Lucio quickly replaced the defective cap and reloaded—this time packing the barrel with an extra dose of lead shot. When the monkey climbed to an even more exposed position, Hilario encouraged his **(p.36)**

son to fire again: “Hurry now really!” Wary of the precarious nature of his firearm, however, Lucio first uttered, “*teeeye*.” *Teeeye*, like *tsupu*, *ta ta*, and *pu oh*, is an image in sound. It is iconic of a gun successfully firing and hitting its target. The mouth that pronounces it is like a flask that assumes the various shapes of a firing gun. First the tongue taps on the palette to produce the stopped consonant the way a hammer strikes a firing cap. Then the mouth opens ever wider as it pronounces the expanding elongated vowel, the way lead shot, propelled by the explosion of powder ignited by the cap, sprays out of the barrel (figure 4).

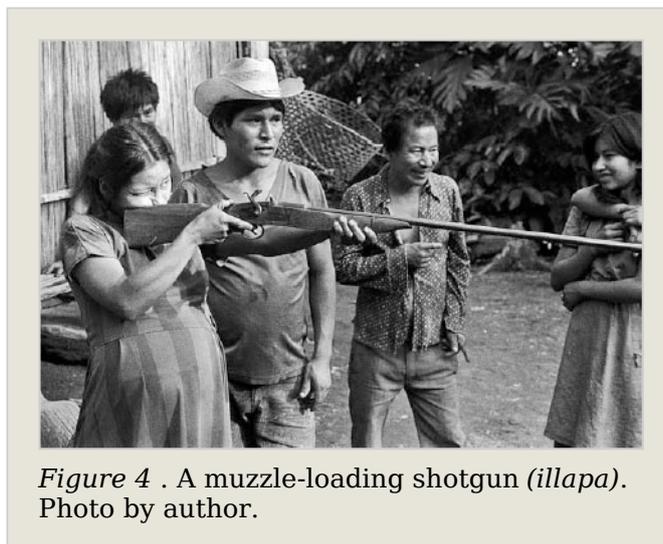


Figure 4 . A muzzle-loading shotgun (*illapa*).
Photo by author.

Moments later Lucio pulled the trigger. And this time, with a deafening *teeeye*, the gun fired.

Teeeye is, at many levels, a product of what it is not. The shape of the mouth effectively eliminates all the many other sounds that could have been made as breath is voiced. What is left is a sound that “fits” the object it represents thanks to the many sounds that are absent. The object that is not physically present constitutes a second absence. Finally, *teeeye* involves another absence in the sense that it is a representation of a future brought into the present in the hopes that this not-yet will affect the present. Lucio hopes his gun will successfully fire *teeeye* when he pulls the trigger. He imported this simulation into **(p.37)** the present from the possible world that he hopes will come to be. This future-possible, which orients Lucio toward taking all the steps needed to make this future possible, is also a constitutive absence. What

teeeye is—its significante effect, in short, its meaning—is dependent on all these things that it is not.

All signs, and not just those we might call magical, traffic in the future in the way that *teeeye* does. They are calls to act in the present through an absent but re-presented future that, by virtue of this call, can then come to affect the present; “Hurry, now really,” as Hilario implored his son moments before he fired his gun, involves a prediction that there will still be an “it” up there to shoot. It is a call from the future as re-presented in the present.

Drawing inspiration from the ancient Chinese philosopher Lao-tzu and his reflection on how the hole at the hub is what makes a wheel useful, Terrence Deacon (2006) refers to the special kind of nothingness delimited by the spokes of a wheel, or by the glass of a flask, or by the shape of the mouth when uttering “*teeeye*” as a “constitutive absence.” Constitutive absence, according to Deacon, is not just found in the world of artifacts or humans. It is a kind of relation to that which is spatially or temporally not present that is crucial to biology and to any kind of self (see Deacon 2012: 3). It points to the peculiar way in which, “in the world of mind, nothing—that which is *not*—can be a cause” (Bateson 2000a: 458, quoted in Deacon 2006).

As I discuss later in this chapter, and in subsequent ones as well, constitutive absence is central to evolutionary processes. That, for example, a lineage of organisms comes to increasingly fit a particular environment is the result of the “absence” of all the other lineages that were selected out. And all manner of sign processes, not just those associated directly with biological life, come to mean by virtue of an absence: iconicity is the product of what is not noticed; indexicality involves a prediction of what is not yet present; and symbolic reference, through a convoluted process that also involves iconicity and indexicality, points to and images absent worlds by virtue of the ways in which it is embedded in a symbolic system that constitutes the absent context for the meaning of any given word’s utterance. In the “world of mind,” constitutive absence is a particular mediated way in which an absent future comes to affect the present. This is why it is appropriate to consider telos—that future for the sake of which something in the present exists—as a real causal modality wherever there is life (see Deacon 2012).

The constant play between presence and these different kinds of absences gives signs their life. It makes them more than the effect of that which came **(p.38)** before them. It makes them images and intimations of something potentially possible.

Provincializing Language

Considering crashing palms, jumping monkeys, and “words” like *tsupu* helps us see that representation is something both more general and more widely distributed than human language. It also helps us see that these other modes of representation have properties that are quite different from those exhibited by the symbolic modalities on which language depends. In short, considering those kinds of signs that emerge and circulate beyond the symbolic helps us see that we need to “provincialize” language.

My call to provincialize language alludes to Dipesh Chakrabarty’s *Provincializing Europe* (2000), his critical account of how South Asian and South Asianist scholars rely on Western social theory to analyze South Asian social realities. To provincialize Europe is to recognize that such theory

(with its assumptions about progress, time, etc.) is situated in the particular European context of its production. Social theorists of South Asia, Chakrabarty argues, turn a blind eye to this situated context and apply such theory as if it were universal. Chakrabarty asks us to consider what kind of theory might emerge from South Asia, or from other regions for that matter, once we circumscribe the European theory we once took as universal.

In showing that the production of a particular body of social theory is situated in a particular context and that there are other contexts for which this theory does not apply, Chakrabarty is making an implicit argument about the symbolic properties of the realities such theory seeks to understand. Context is an effect of the symbolic. That is, without the symbolic we would not have linguistic, social, cultural, or historical contexts as we understand them. And yet this kind of context does not fully create or circumscribe our realities because we also live in a world that exceeds the symbolic, and this is something our social theory must also find ways to address.

Chakrabarty's argument, then, is ultimately couched within humanist assumptions about social reality and the theory one might develop to attend to it, and so, if taken literally, its application to an anthropology beyond the human is limited. Nonetheless, I find provincialization useful metaphorically as a reminder that symbolic domains, properties, and analytics are always circumscribed by and nested within a broader semiotic field.

(p.39) We need to provincialize language because we conflate representation with language and this conflation finds its way into our theory. We universalize this distinctive human propensity by first assuming that all representation is something human and then by supposing that all representation has languagelike properties. That which ought to be delimited as something unique becomes instead the bedrock for our assumptions about representation.

We anthropologists tend to view representation as a strictly human affair. And we tend to focus only on symbolic representation—that uniquely human semiotic modality.¹⁶ Symbolic representation, manifested most clearly in language, is conventional, “arbitrary,” and embedded in a system of other such symbols, which, in turn, is sustained in social, cultural, and political contexts that have similar systemic and conventional properties. As I mentioned earlier, the representational system associated with Saussure, which is the implicit one that underlies so much of contemporary social theory, concerns itself only with this kind of arbitrary, conventional sign.

There is another reason why we need to provincialize language: we conflate language with representation even when we don't explicitly draw on language or the symbolic for our theoretical tools. This conflation is most evident in our assumptions about ethnographic context. Just as we know that words only acquire meanings in terms of the greater context of other such words to which they systemically relate, it is an anthropological axiom that social facts can't be understood except by virtue of their place in a context made up of other such facts. And the same applies for the webs of cultural meanings or for the network of contingent discursive truths as revealed by a Foucauldian genealogy.

Context understood in this way, however, is a property of human conventional symbolic reference, which creates the linguistic cultural and social realities that make us distinctively human. It doesn't fully apply in domains such as human-animal relations that are not completely

circumscribed by the symbolic but are nevertheless semiotic. The kinds of representational modalities shared by all forms of life—modalities that are iconic and indexical—are not context-dependent the way symbolic modalities are. That is, such representational modalities do not function by means of a contingent system of sign relations—a context—the way symbolic modalities do. So in certain semiotic domains context doesn't apply, and even in those domains such as human ones where it does, such contexts, as we can see by attending to that which lies beyond the human, are, as I will show, permeable. In short, complex wholes are also open wholes—hence this chapter's title. And open **(p.40)** wholes reach beyond the human—hence this anthropology beyond the human.

This conflation of representation with language—the assumption that all representational phenomena have symbolic properties—holds even for those kinds of projects that are explicitly critical of cultural, symbolic, or linguistic approaches. It is apparent in classical materialist critiques of the symbolic and the cultural. It is also apparent in more contemporary phenomenological approaches that turn to the bodily experiences we also share with nonhuman beings as a way to avoid anthropocentric mind talk (see Ingold 2000; Csordas 1999; Stoller 1997). It is also, I should note, apparent in Eduardo Viveiros de Castro's multinaturalism (discussed in detail in chapter 2). When Viveiros de Castro writes that “a perspective is not a representation because representations are a property of the mind or spirit, whereas the point of view is located in the body” (1998: 478), he is assuming that attention to bodies (and their natures) can allow us to side step the thorny issues raised by representation.

The alignment between humans, culture, the mind, and representation, on the one hand, and nonhumans, nature, bodies, and matter, on the other, remains stable even in posthuman approaches that seek to dissolve the boundaries that have been erected to construe humans as separate from the rest of the world. This is true of Deleuzian approaches, as exemplified, for example, by Jane Bennett (2010), that deny the analytical purchase of representation and telos altogether—since these are seen, at best, as exclusively human mental affairs.

This alignment is also evident in attempts in science and technology studies (STS), especially those associated with Bruno Latour, to equalize the imbalance between unfeeling matter and desiring humans by depriving humans of a bit of their intentionality and symbolic omnipotence at the same time that they confer on things a bit more agency. In his image of “speech impediments,” for example, Latour attempts to find an idiom that might bridge the analytical gap between speaking scientists and their supposedly silent objects of study. “Better to have marbles in one's mouth, when speaking about scientists,” he writes, “then to slip absent-mindedly from mute things to the indisputable word of the expert” (2004: 67). Because Latour conflates representation and human language his only hope to get humans and nonhumans in the same frame is to literally mix language and things—to speak with marbles in his mouth. But this solution perpetuates Cartesian dualism because the atomic elements remain either human mind or unfeeling matter, despite the fact that **(p.41)** these are more thoroughly mixed than Descartes would have ever dreamed, and even if one claims that their mixture precedes their realization. This analytic of mixture creates little homunculi at all levels. The hyphen in Latour's (1993: 106) “natures-cultures” is the new pineal gland in the little Cartesian heads that this analytic unwittingly engenders at all scales. An anthropology beyond the human seeks to find ways to move beyond this analytic of mixture.

Erasing the divide between the human mind and the rest of the world, or, alternatively, striving for some symmetrical mixing between mind and matter, only encourages this gap to emerge again elsewhere. An important claim I make in this chapter, and an important foundation for the arguments to be developed in this book, is that the most productive way to overcome this dualism is not to do away with representation (and by extension telos, intentionality, “aboutness,” and selfhood), or simply project human kinds of representation elsewhere, but to radically rethink what it is that we take representation to be. To do this, we need first to provincialize language. We need, in Viveiros de Castro’s words, to “decolonize thought,” in order to see that thinking is not necessarily circumscribed by language, the symbolic, or the human.

This involves reconsidering who in this world represents, as well as what it is that counts as representation. It also involves understanding how different kinds of representation work and how these different kinds of representation variously interact with each other. What sort of life does semiosis take beyond the trappings of internal human minds, beyond specifically human propensities, such as the ability to use language, and beyond those specifically human concerns that those propensities engender? An anthropology beyond the human encourages us to explore what signs look like beyond the human.

Is such an exploration possible? Or do the all-too-human contexts in which we live bar us from such an endeavor? Are we forever trapped inside our linguistically and culturally mediated ways of thinking? My answer is no: a more complete understanding of representation, which can account for the ways in which that exceptionally human kind of semiosis grows out of and is constantly in interplay with other kinds of more widely distributed representational modalities, can show us a more productive and analytically robust way out of this persistent dualism.

We humans are not the only ones who do things for the sake of a future by re-presenting it in the present. All living selves do this in some way or another. Representation, purpose, and future are in the world—and not just in that part of the world that we delimit as human mind. This is why it is appropriate **(p.42)** to say that there is agency in the living world that extends beyond the human. And yet reducing agency to cause and effect—to “affect”—side-steps the fact that it is human and nonhuman ways of “thinking” that confer agency. Reducing agency to some sort of generic propensity shared by humans and nonhumans (which in such approaches includes objects) thanks to the fact that these entities can all equally be represented (or that they can confound these representations), and that they then participate by virtue of this in some sort of very humanlike narrative, trivializes this thinking by failing to distinguish among ways of thinking and by indiscriminately applying distinctively human ways of thinking (based on symbolic representation) to any entity.

The challenge is to defamiliarize the arbitrary sign whose peculiar properties are so natural to us because they seem to pervade everything that is in any way human and anything else about which humans can hope to know. That you can feel *tsupu* without knowing Quichua makes language appear strange. It reveals that not all the signs with which we traffic are symbols and that those nonsymbolic signs can in important ways break out of bounded symbolic contexts like language. This explains not only why we can come to feel *tsupu* without speaking Quichua but also why Hilario can communicate with a nonsymbolic being. Indeed, the startled monkey’s

jump, and the entire ecosystem that sustains her, constitutes a web of semiosis of which the distinctive semiosis of her human hunters is just one particular kind of thread.

To summarize: signs are not exclusively human affairs. All living beings sign. We humans are therefore at home with the multitude of semiotic life. Our exceptional status is not the walled compound we thought we once inhabited. An anthropology that focuses on the relations we humans have with nonhuman beings forces us to step beyond the human. In the process it makes what we've taken to be the human condition—namely, the paradoxical, and “provincialized,” fact that our nature is to live immersed in the “unnatural” worlds we construct—appear a little strange. Learning how to appreciate this is an important goal of an anthropology beyond the human.

The Feeling of Radical Separation

The Amazon's many layers of life amplify and make apparent these greater than human webs of semiosis. Allowing its forests to think their ways through us can help us appreciate how we too are always, in some way or another, embedded in such webs and how we might do conceptual work with this fact. **(p.43)** This is what draws me to this place. But I've also learned something from attending to those times when I've felt cut off from these broader semiotic webs that extend beyond the symbolic. Here I reflect on such an experience that I had on one of the many bus trips I made from Quito to the Amazon region. I relay the feeling of what happened on this trip, not as a personal indulgence, but because I think it reveals a specific quality of symbolic modes of thinking—the propensity that symbolic thought has to jump out of the broader semiotic field from which it emerges, separating us, in the process, from the world around us. As such, this experience can also teach us something about how to understand the relation that symbolic thought has to the other kinds of thought in the world with which it is continuous and from which it emerges. In this sense, this reflection on my experience is also part of a broader critique, developed in the following two sections, of the dualistic assumptions at the base of so many of our analytical frameworks. I explore this experience of becoming dual, of feeling ripped out of a broader semiotic environment, that I had on a trip down to el Oriente, Ecuador's Amazonian region east of the Andes, by means of a narrative detour. Apart from serving as a bit of a respite from the conceptual work done in this chapter, I hope it will give some sense of the way in which Ávila itself is embedded in a landscape with a history. For this trip traces the trajectories of many other trips, and all of these catch this place up in so many kinds of webs.

The past few days had been unusually rainy on the eastern slopes of the Andes, and the main road leading down to the lowlands had been intermittently washed out. Joined by my cousin Vanessa, who was in Ecuador visiting relatives, I boarded a bus headed for the Oriente. With the exception of a group of Spanish tourists occupying the back rows, the bus was filled with locals who lived along the route or in Tena, the capital of Napo Province and the bus's final destination. This was a trip I had made many times by now, and it was our plan to take this bus along its route over the high cordillera east of Quito that divides the Amazonian watershed from the inter-Andean valley and then to follow this down through the village of Papallacta, the site of a pre-Hispanic cloud forest settlement situated along one of the major trade routes through which highland and lowland products flowed (I refer you to figure 1 on page 4). Today Papallacta is an important pumping station for Amazonian resources such as crude oil, which since the 1970s has transformed the country's economy and opened up the Oriente for development, and,

more recently, drinking water for Quito tapped from the vast **(p.44)** watershed east of the Andes. Nestled in a mountain chain that still experiences frequent geological activity, it is also the site of some very popular hot springs. Papallacta is, like many of the other cloud forest towns we would pass on our route, now mainly inhabited by highland settlers. The road is carved out of the precipitous gorges of the Quijos River valley, which it follows through what was the stronghold of the pre-Hispanic and early colonial alliance of Quijos chiefdoms. The ancestors of the Ávila Runa formed part of this alliance. Farmers regularly expose thousand-year-old residential terraces as they clear the steep forested slopes to create pastures. The route continues along the trajectory of the foot trails that until the 1960s connected Ávila and other lowland Runa villages like it, by means of an arduous eight-day journey, to Quito. We would take this road through the town of Baeza, which, along with Ávila and Archidona, was the first Spanish settlement founded in the Upper Amazon. Baeza was almost sacked in the same regionally coordinated 1578 indigenous uprising—sparked by the shamanic vision of a cow-god — that completely destroyed Ávila and left virtually all its Spanish inhabitants dead. Today's Baeza bears little resemblance to that historical town—having been relocated a few kilometers away following a large earthquake in 1987. Just before Baeza there is a fork in the road. One branch heads northeast toward the town of Lago Agrio. This was the first major center of oil extraction in Ecuador, and its name is a literal translation of Sour Lake, the site where oil was first discovered in Texas (and the birthplace of Texaco). The other branch, the one we would take, follows an older route to the town of Tena. In the 1950s Tena represented the boundary between civilization and the “savage” heathens (the Huaorani) to the east. Now it is a quaint town. After winding through steep and unstable terrain we would cross the Cosanga River where 150 years ago the Italian explorer Gaetano Osculati was abandoned by his Runa porters and forced to spend several miserable nights alone fending off jaguars (Osculati 1990). After this crossing there would be a final climb through the Huacamayos Cordillera, which is the last range to be traversed before dropping down to the warm valleys that lead to Archidona and Tena. On a clear day one can catch from here the shimmering reflections off the metal roofs in Archidona down below, as well as the road that goes from Tena to Puerto Napo, where it cuts a swath of red earth in the steep grade of a hill. Puerto Napo is the long abandoned “port” on the Napo River (indicated by a little anchor in figure 1), which flows into the Amazon. It had the misfortune of being situated just upstream from a dangerous whirlpool. If there are no clouds one can also see **(p.45)** the sugar cone peak of the Sumaco Volcano on whose foothills Ávila sits. An area of close to 200,000 hectares making up the peak and many of its slopes is protected as a biosphere reserve. This reserve, in turn, is surrounded by a much larger area, which is designated as national forest. Ávila territory forms a border with this vast expanse on its western boundary.

Once out of the mountains the air becomes warmer and heavier as we pass little hamlets settled by lowland Runa. Finally, at another fork an hour before arriving at Tena, we would hop off to wait for a second bus that works its way along this decidedly more local and personal route. On this tertiary road a bus driver might stop to broker a deal on a few boxes of the tart *naranjilla* fruits used to make breakfast juice throughout Ecuador.¹⁷ Or he might be persuaded to wait a few minutes for a regular passenger. This is a relatively new road, having been completed in the aftermath of the 1987 earthquake with the not entirely disinterested help of the U.S. Army Corps of Engineers. It winds through the foothills that circle Sumaco Volcano before heading out across the Amazonian plain at Loreto. It ends at the town of Coca at the confluence of the Coca

and Napo Rivers. Coca, like Tena, but several decades later, also served as a frontier outpost of the Ecuadorian state as its control expanded deeper into this region. This road cuts through what used to be the hunting territories of the Runa villages of Cotapino, Loreto, Ávila, and San José, which, along with a handful of “white”-owned estates, or haciendas, and a Catholic mission in Loreto, were the only settlements in this area before the 1980s. Today large portions of these hunting territories are occupied by outsiders— either fellow Runa from the more densely populated Archidona region (whom people in Ávila refer to as *boulu*, from *pueblo*, referring to the fact that they are more city-wise) or small-time farmers and merchants of coastal or highland origin who are often referred to as *colonos* (or *jahua llacta*, in Quichua; lit., “highlanders”).

Right after crossing the immense steel panel bridge that traverses the Suno River, one of several such structures along this route donated by the U.S. Army, we would get off at Loreto, the parish seat and biggest town on the road. We would spend the night here at the Josephine mission run by Italian priests. The following day we would retrace our steps, either by foot or by pickup truck, back over the bridge and then along a dirt road that follows the Suno River through colonist farms and pastures until we hit the trail leading to Ávila. Roads in eastern Ecuador extend in fits and starts over many years. Their growth spurts usually coincide with local election campaigns. When (p.46) I first started visiting Ávila in 1992 there were only foot trails from Loreto, and it would take me the better part of a day to get to Hilario’s house. On my most recent visit one could, on a dry day get to the easternmost portion of Ávila territory by pickup truck.

This was the route we had hoped to traverse. In fact, we didn’t make it to Loreto that day. Not too far after Papallacta we encountered the first of a series of landslides set off by the heavy rains. And while our bus, along with a growing string of trucks, tankers, buses, and cars, waited for this to be cleared we became trapped by another landslide behind us.

This is steep, unstable, and dangerous terrain. The landslides reawakened in me a jumble of disturbing images from a decade of traveling this road: a snake frantically tracing figure eights in an immense mudflow that had washed over the road moments before we had gotten there; a steel bridge buckled in half like a crushed soda can by a slurry of rocks let loose as the mountain above it came down; a cliff splattered with yellow paint, the only sign left of the delivery truck that had careened into the ravine the night before. But landslides mostly cause delays. Those that can’t quickly be cleared become sites for “*trasbordos*,” an arrangement whereby oncoming buses that can no longer reach their destinations exchange passengers before turning back.

On this day a *trasbordo* was out of the question. Traffic was backed up in both directions, and we were trapped by a series of landslides scattered over a distance of several kilometers. The mountain above was starting to fall on us. At one point a rock crashed down onto our roof. I was scared.

No one else, however, seemed to think we were in danger. Perhaps out of sheer nerve, fatalism, or the need, above anything else, to complete the trip, neither the driver nor his assistant ever lost his cool. To a certain extent I could understand this. It was the tourists that baffled me. These middle-aged Spanish women had booked one of the tours that visit the rain forests and indigenous villages along the Napo River. As I worried, these women were joking and laughing.

At one point one even got off the bus and walked ahead a few cars to a supply truck off of which she bought ham and bread and proceeded to make sandwiches for her group.

The incongruity between the tourists' nonchalance and my sense of danger provoked in me a strange feeling. As my constant what-ifs became increasingly distant from the carefree chattering tourists, what at first began as a diffuse sense of unease soon morphed into a sense of profound alienation.

(p.47) This discrepancy between my perception of the world and that of those around me sundered me from the world and those living in it. All I was left with were my own thoughts of future dangers spinning themselves out of control. And then something more disturbing happened. Because I sensed that my thoughts were out of joint with those around me, I soon began to doubt their connection to what I had always trusted to be there for me: my own living body the body that would otherwise give a home to my thoughts and locate this home in a world whose palpable reality I shared with others. I came, in other words, to feel a tenuous sense of existence without location—a sense of deracination that put into question my very being. For if the risks I was so sure of didn't exist—after all, no one else on that bus seemed frightened that the mountain would fall on us—then why should I trust my bodily connection to that world? Why should I trust “my” connection to “my” body? And if I didn't have a body what was “I”? Was I even alive? Thinking like this, my thoughts ran wild.

This feeling of radical doubt, the feeling of being cut off from my body and a world whose existence I no longer trusted, didn't go away when several hours later the landslides were cleared and we were able to get through. Nor did it subside when we finally got to Tena (it was too late to make it to Loreto that night). Not even in the relative comfort of my old haunt the hotel El Dorado did I manage to feel much better. This simple but cozy family-run inn used to be my stopping point when I was doing research in Runa communities on the Napo River.¹⁸ It was owned by *don* Salazar, a veteran—with the scar to prove it—of Ecuador's short war with Peru in which Ecuador lost a third of its territory and access to the Amazon River. The hotel's name, El Dorado, appropriately marks this loss by paying homage to that never quite attainable City of Gold that lies somewhere deep in the Amazon (see Slater 2002; see also chapters 5 and 6).

The next morning after a fitful night I was still out of sorts. I couldn't stop imagining different dangerous scenarios, and I still felt cut off from my body and from those around me. Of course I pretended I wasn't feeling any of this. Trying at least to act normal, and in the process compounding my private anxiety by failing to give it a social existence, I took my cousin for a short walk along the banks of the Misahuallí River, which cuts the town of Tena in half. Within a few minutes I spotted a tanager feeding in the shrubs at the scruffy edges of town where molding cinder blocks meet polished river cobbles. I had brought along my binoculars and managed, after some searching, to locate the bird. I rolled the focusing knob and the moment that bird's thick black beak **(p.48)** became sharp I experienced a sudden shift. My sense of separation simply dissolved. And, like the tanager coming into focus, I snapped back into the world of life.

There is a name for what I felt on that trip to the Oriente: anxiety. After reading *Constructing Panic* (1995), a remarkable account, written by the late psychologist Lisa Capps and the

linguistic anthropologist Elinor Ochs, of one woman's lifelong struggles with anxiety, I've come to an understanding of this condition as revealing something important about the specific qualities of symbolic thought. Here is how Meg, the woman they write about, experiences the suffocating weight of all of the future possibles opened up by the symbolic imagination.

Sometimes I get to the end of the day and feel exhausted by all of the "what if that had happened" and "what if this happens." And then I realize that I've been sitting on the sofa—that it's just me and my own thoughts driving me crazy. (Capps and Ochs 1995: 25)

Capps and Ochs describe Meg as "desperate" to "experience the reality that she attributes to normal people" (25). Meg feels "severed from an awareness of herself and her environment as familiar and knowable" (31). She senses that her experience does not fit with what, according to others, "happened" (24), and she thus has no one with whom to share a common image of the world, or a set of assumptions about how it works. Furthermore, she can't seem to ground herself in any specific place. Meg often uses the construction, "here I am," to express her existential predicament, but a crucial element is missing: "she is telling her interlocutors that she exists, but not where in particular she is located" (64).

The title *Constructing Panic* is intended by the authors to refer to how Meg discursively constructs her experience of panic—their assumption being that "the stories people tell construct who they are and how they view the world" (8). But I think the title reveals something deeper about panic. It is precisely the constructive quality of symbolic thought, the fact that symbolic thought can create so many virtual worlds, that makes anxiety possible. It is not just that Meg constructs her experience of panic linguistically, socially, culturally, in other words, symbolically, rather that panic itself is a symptom of symbolic construction run wild.

Reading Capps and Ochs's discussion of Meg's experience of panic, and thinking about it semiotically, I think I have come to an understanding of what happened on that trip to the Oriente, the factors that produced panic in me, and (p.49) those that led to its dissipation. As with Meg, who locates her first experiences of anxiety in situations in which her legitimate fears were not socially recognized (31), my anxiety emerged as I was confronted with the disconnect between my well-founded fear and the carefree attitudes of the tourists on the bus.

Symbolic thought run wild can create minds radically separate from the indexical grounding their bodies might otherwise provide. Our bodies, like all of life, are the products of semiosis. Our sensory experiences, even our most basic cellular and metabolic processes, are mediated by representational—though not necessarily symbolic—relations (see chapter 2). But symbolic thought run wild can make us experience "ourselves" as set apart from everything: our social contexts, the environments in which we live, and ultimately even our desires and dreams. We become displaced to such an extent that we come to question the indexical ties that would otherwise ground this special kind of symbolic thinking in "our" bodies, bodies that are themselves indexically grounded in the worlds beyond them: *I think therefore I doubt that I am*.

How is this possible? And why is it that we don't all live in a constant state of skeptical panic? That my sense of anxious alienation dissipated the moment the bird came into sharp focus provides some insights into the conditions under which symbolic thought can become so radically separate from the world, as well as those under which it can fall back into place. I do

not, by any means, wish to romanticize tropical nature or privilege anyone's connection to it. This sort of regrounding can happen anywhere. Nonetheless, sighting that tanager in the bush at the messy edge of town taught me something about how immersion in this particularly dense ecology amplifies and makes visible a larger semiotic field beyond that which is exceptionally human, one in which we are all—usually—emplaced. Seeing that tanager made me sane by allowing me to situate the feeling of radical separation within something broader. It resituated me in a larger world “beyond” the human. My mind could return to being part of a larger mind. My thoughts about the world could once again become part of the thoughts of the world. An anthropology beyond the human strives to grasp the importance of these sorts of connections while appreciating why we humans are so apt to lose sight of them.

Novelty Out of Continuity

Thinking about panic in this way has led me to question more broadly how best to theorize the separation that symbolic thought creates. We tend to **(p.50)** assume that because something like the symbolic is exceptionally human and thus novel (at least as far as earthly life is concerned) it must also be radically separate from that from which it comes. This is the Durkheimian legacy we inherit: social facts have their own kind of novel reality which can only be understood in terms of other such social facts and not in terms of anything— be it psychological, biological, or physical—prior to them (see Durkheim 1972: 69-73). But the sense of radical separation that I experienced is psychically untenable—even life negating in some sense. And this leads me to suspect that there is something the matter with any analytical approach that would take such a separation as its starting point.

If, as I claim, our distinctively human thoughts stand in continuity with the forest's thoughts insofar as both are in some way or other the products of the semiosis that is intrinsic to life (see chapter 2), then an anthropology beyond the human must find a way to account for the distinctive qualities of human thought without losing sight of its relation to these more pervasive semiotic logics. Accounting conceptually for the relation this novel dynamic has to that from which it comes can help us better understand the relationship between what we take to be distinctively human and that which lies beyond us. In this regard I want to think here about what panic, and especially its resolution, has taught me. To do so I draw on a series of Amazonian examples to trace the ways in which iconic, indexical, and symbolic processes are nested within each other. Symbols depend on indices for their being and indices depend on icons. This allows us to appreciate what makes each of these unique without losing sight of how they also stand in a relation of continuity with each other.

Following Deacon (1997), I begin with a counterintuitive example at the very margins of semiosis. Consider the cryptically camouflaged Amazonian insect known as the walking stick in English because its elongated torso looks so much like a twig. Its Quichua name is *shanga*. Entomologists call it, appropriately, a phasmid—as in phantom—placing it in the order Phasmida and the family Phasmidae. This name is fitting. What makes these creatures so distinctive is their lack of distinction: they disappear like a phantom into the background. How did they come to be so phantasmic? The evolution of such creatures reveals important things about some of the “phantomlike” logical properties of semiosis that can, in turn, help us understand some of the counterintuitive properties of life “itself”—properties that are amplified in the Amazon and Runa ways of living there. For this reason, I will return to this example throughout the book. Here I

want to focus on it with an eye to **(p.51)** understanding how the different semiotic modalities—the iconic, the indexical, the symbolic—have their own unique properties at the same time that they stand in a relation of nested continuity to each other.

How did walking sticks come to be so invisible, so phantomlike? That such a phasmid looks like a twig does not depend on anyone noticing this resemblance—our usual understanding of how likeness works. Rather, its likeness is the product of the fact that the ancestors of its potential predators did not notice its ancestors. These potential predators failed to notice the differences between these ancestors and actual twigs. Over evolutionary time those lineages of walking sticks that were least noticed survived. Thanks to all the proto-walking sticks that were noticed—and eaten—because they differed from their environments walking sticks came to be more like the world of twigs around them.¹⁹

How walking sticks came to be so invisible reveals important properties of iconicity. Iconicity, the most basic kind of sign process, is highly counterintuitive because it involves a process by which two things are not distinguished. We tend to think of icons as signs that point to the similarities among things we know to be different. We know, for example, that the iconic stick figure of the man on the bathroom door resembles but is not the same as the person who might walk through that door. But there is something deeper about iconicity that is missed when we focus on this sort of example. Semiosis does not begin with the recognition of any intrinsic similarity or difference. Rather, it begins with not noticing difference. It begins with indistinction. For this reason iconicity occupies a space at the very margins of semiosis (for there is nothing semiotic about never noticing anything at all). It marks the beginning and end of thought. With icons new interpretants—subsequent signs that would further specify something about their objects—are no longer produced (Deacon 1997: 76, 77); with icons thought is at rest. Understanding something, however provisional that understanding may be, involves an icon. It involves a thought that is like its object. It involves an image that is a likeness of that object. For this reason all semiosis ultimately relies on the transformation of more complex signs into icons (Peirce CP 2.278).

Signs, of course, provide information. They tell us something new. They tell us about a difference. That is their reason for being. Semiosis must then involve something other than likeness. It must also involve a semiotic logic that points to something else—a logic that is indexical. How do the semiotic logics of likeness and difference relate to each other? Again, following Deacon (1997), **(p.52)** consider the following schematic explanation of how that woolly monkey that Hilario and Lucio were trying to frighten out of her hidden canopy perch might learn to interpret a crashing palm as a sign of danger.²⁰ The thundering crash she heard would iconically call to mind past experiences of similar crashes. These past experiences of crashing sounds share with each other additional similarities, such as their co-occurrence with something dangerous—say, a branch breaking or a predator approaching. The monkey would in addition iconically link these past dangers to each other. That the sound made by a crashing tree might indicate danger is, then, the product of, on the one hand, iconic associations of loud noises with other loud noises, and, on the other, iconic associations of dangerous events with other dangerous events. That these two sets of iconic associations are repeatedly linked to each other encourages the current experience of a sudden loud noise to be seen as linked to them. But now this association is also something more than a likeness. It impels the monkey to “guess”

that the crash must be linked to something other than itself, something different. Just as a wind vane, as an index, is interpreted as pointing to something other than itself, namely, the direction in which the wind is blowing, so this loud noise is interpreted as pointing to something more than just a noise; it points to something dangerous.

Indexicality, then, involves something more than iconicity. And yet it emerges as a result of a complex hierarchical set of associations among icons. The logical relationship between icons and indices is unidirectional. Indices are the products of a special layered relation among icons but not the other way around. Indexical reference, such as that involved in the monkey's take on the crashing tree, is a higher-order product of a special relationship among three icons: crashes bring to mind other crashes; dangers associated with such crashes bring to mind other such associations; and these, in turn, are associated with the current crash. Because of this special configuration of icons the current crash now points to something not immediately present: a danger. In this way an index emerges from iconic associations. This special relationship among icons results in a form of reference with unique properties that derive from but are not shared with the iconic associational logics with which they are continuous. Indices provide information; they tell us something new about something not immediately present.

Symbols, of course, also provide information. How they do so is both continuous with and different from indices. Just as indices are the product of relations among icons and exhibit unique properties with respect to these more **(p.53)** fundamental signs, symbols are the product of relations among indices and have their own unique properties. This relationship also goes only in one direction. Symbols are built from a complex layered interaction among indices, but indices do not require symbols.

A word, such as *chorongó*, one of the Ávila names for woolly monkey, is a symbol par excellence. Although it can serve an indexical function—pointing to something (or, more appropriately, someone)—it does so indirectly, by virtue of its relation to other words. That is, the relation that such a word has to an object is primarily the result of the conventional relation it has acquired to other words and not just a function of the correlation between sign and object (as with an index). Just as we can think of indexical reference as the product of a special configuration of iconic relations, we can think of symbolic reference as the product of a special configuration of indexical ones. What is the relationship of indices to symbols? Imagine learning Quichua. A word such as *chorongó* is relatively easy to learn. One can learn that it refers to what in English is called a woolly monkey quite quickly. As such, it isn't really functioning symbolically. The pointing relationship between this "word" and the monkey is primarily indexical. The commands that dogs learn are very much like this. A dog can come to associate a "word" like *sit* with a behavior. As such, "sit" functions indexically. The dog can understand "sit" without understanding it symbolically. But there is a limit to how far we can go toward learning human language by memorizing words and what they point to; there are just too many individual sign-object relationships to keep track of. Furthermore, rote memorization of sign-object correlations misses the logic of language. Take a somewhat more complex word like *causanguichu*, which I discussed earlier in this chapter. Non-Quichua speakers can quickly learn that it is a greeting (uttered only in certain social contexts), but getting a sense of what and how it means requires us to understand how it relates to other words and even smaller units of language.

Words like *chorongo*, *sit*, or *causanguichu* do of course refer to things in the world, but in symbolic reference the indexical relation of word to object becomes subordinate to the indexical relation of word to word in a system of such words. When we learn a foreign language or when infants acquire language for the first time there is a shift away from using linguistic signs as indices to appreciating them in their broader symbolic contexts. Deacon (1997) describes one experimental setting where such a shift is particularly apparent. He discusses a long-term lab experiment in which chimps, already adept in **(p.54)** their everyday lives at interpreting signs indexically, were trained to replace this interpretive strategy with a symbolic one.²¹

First, the chimps in the experiment had to interpret certain sign vehicles (in this case keyboard keys with certain shapes on them) as indices of certain objects or acts (such as particular food items or actions). Next, such sign vehicles had to be seen as indexically connected to each other in a systematic way. The final, and most difficult and most important, step involved an interpretive shift whereby objects were no longer picked out in a direct fashion by the individual indexical signs but instead came to be picked out indirectly, by virtue of the ways in which the signs representing them related to each other and the ways in which these sign relations then mapped onto how the objects themselves were to be thought to relate to each other. The mapping between these two levels of indexical associations (those linking objects to objects and those linking signs to signs) is iconic (Deacon 1997: 79–92). It involves not noticing the individual indexical associations by which signs can pick out objects in order to see a more encompassing likeness between the relations that link a system of signs and those that link a set of objects.

I am now in a position to account for the sense of separation—which I experienced as panic on the bus ride I described earlier—that the symbolic creates. I can now do so with regard to the more basic forms of reference to which it relates and with which it is continuous.

The symbolic is a prime example of a kind of dynamic that Deacon calls “emergent.” For Deacon, an emergent dynamic is one in which particular configurations of constraints on possibility result in unprecedented properties at a higher level. Crucially, however, something that is emergent is never cut off from that from which it came and within which it is nested because it still depends on these more basic levels for its properties (Deacon 2006). Before considering symbolic reference as emergent with respect to other semiotic modalities it is useful to think about how emergence works in the nonhuman world.

Deacon recognizes a series of nested emergent thresholds. An important one is self-organization. Self-organization involves the spontaneous generation, maintenance and propagation of form under the right circumstances. Although relatively ephemeral and rare, self-organization is nonetheless found in the nonliving world. Examples of self-organizing emergent dynamics include the circular whirlpools that sometimes form in Amazonian rivers, or the geometric lattices of crystals or snowflakes. Self-organizing dynamics are **(p.55)** more regular and more constrained than the physical entropic dynamics—such as those involved, for example, in the spontaneous flow of heat from a warmer to a colder part of a room—from which they emerge and on which they depend. Entities that exhibit self-organization, such as crystals, snowflakes, or whirlpools, are not alive. Nor, despite their name, do they involve a self.

Life, by contrast, is a subsequent emergent threshold nested within self-organization. Living dynamics, as represented by even the most basic organisms, selectively “remember” their own specific self-organizing configurations, which are differentially retained in the maintenance of what can now be understood as a self—a form that is reconstituted and propagated over the generations in ways that exhibit increasingly better fits to the worlds around it. Living dynamics, as I explore in greater detail in the following chapter, are constitutively semiotic. The semiosis of life is iconic and indexical. Symbolic reference, that which makes humans unique, is an emergent dynamic that is nested within this broader semiosis of life from which it stems and on which it depends.

Self-organizing dynamics are distinct from the physical processes from which they emerge and with which they are continuous, and within which they are nested. Living dynamics have a similar relation to the self-organizing dynamics from which they, in turn, emerge, and the same can be said for the relation that symbolic semiosis has to the broader iconic and indexical semiotic processes of life from which it emerges (Deacon 1997: 73).²² Emergent dynamics, then, are directional both in a logical and in an ontological sense. That is, a world characterized by self-organization need not include life, and a living world need not include symbolic semiosis. But a living world must also be a self-organizing one, and a symbolic world must be nested within the semiosis of life.

I can now return to the emergent properties of symbolic representation. This form of representation is emergent with respect to iconic and indexical reference in the sense that, as with other emergent dynamics, the systemic structure of relationships among symbols is not prefigured in the antecedent modes of reference (Deacon 1997: 99). Like other emergent dynamics symbols have unique properties. The fact that symbols achieve their referential power by virtue of the systemic relations they have to each other means that, as opposed to indices, they can retain referential stability even in the absence of their objects of reference. This is what confers on symbols their unique **(p.56)** characteristics. It is what allows symbolic reference to be not only about the here and now, but about the “what if.” In the realm of the symbolic, the separation from materiality and energy can be so great and the causal links so convoluted that reference acquires a veritable freedom. And this is what has led to treating it as if it were radically separate from the world (see also Peirce CP 6.101).

Yet, like other emergent dynamics, such as the vortex of a whirlpool formed in a river’s current, symbolic reference is also closely tied to the more basic dynamics out of which it grows. This is true in the way that symbols are constructed as well as in the way in which they are interpreted. Symbols are the outcome of a special relationship among indices, which in turn are outcomes of a special relationship that links icons in a particular way. And symbolic interpretation works via pairings of sets of indexical relations, which are ultimately interpreted by recognizing the iconicity between them: all thought ends with an icon. Symbolic reference, then, is ultimately the product of a series of highly convoluted systemic relations among icons. And yet it has properties that are unique when compared to iconic and indexical modalities. Symbolic reference does not exclude these other kinds of sign relations. Symbolic systems such as language can, and regularly do, incorporate relatively iconic signs, as in the case of “words” like *tsupu*, and they are also completely dependent on iconicity at a variety of levels as well as on all sorts of pointing relationships among signs and between systems of signs and the things they

represent. Symbolic reference, finally, like all semiosis, is also ultimately dependent on the more fundamental material, energetic, and self-organizing processes from which it emerges.

Thinking of symbolic reference as emergent can help us understand how, via symbols, reference can become increasingly separated from the world but without ever fully losing the potential to be susceptible to the patterns, habits, forms, and events of the world.

Seeing symbolic reference and by extension human language and culture as emergent follows in the spirit of Peirce's critique of dualistic attempts to separate (human) mind from (nonhuman) matter—an approach that he acerbically characterized as “the philosophy which performs its analyses with an axe, leaving as the ultimate elements, unrelated chunks of being” (CP 7.570). An emergentist approach can provide a theoretical and empirical account of how the symbolic is in continuity with matter at the same time that it can come to be a novel causal locus of possibility. This continuity allows us to recognize **(p.57)** how something so unique and separate is also never fully cut off from the rest of the world. This gets at something important about how an anthropology beyond the human seeks to situate that which is distinctive to humans in the broader world from which it emerges.

Panic and its dissipation reveal these properties of symbolic semiosis. They point both to the real dangers of unfettered symbolic thought and to how such thought can be regrounded. Watching birds regrounded my thoughts, and by extension my emerging self, by re-creating the semiotic environment in which symbolic reference is itself nested. Through the artifice of my binoculars I became indexically aligned with a bird, thanks to the fact that I was able to appreciate its image now coming into sharp focus right there in front of me. This event reimmersed me in something that Meg, on her sofa, alone with her thoughts, was not so readily able to find: a knowable (and shareable) environment, and the assurance, for the moment, of some sort of existence, tangibly located in a here and now that extended beyond me but of which I too could come to be a part.

Panic provides us with intimations of what radical dualism might feel like, and why for us humans dualism seems so compelling. In tracing its untenable effects panic also provides its own visceral critique of dualism and the skepticism that so often accompanies it. In panic's dissolution we can also get a sense for how a particular human propensity for dualism is dissolved into something else. One might say that dualism, wherever it is found, is a way of seeing emergent novelty as if it were severed from that from which it emerged.

Emergent Reals

By watching birds on the banks of the river that morning in Tena I certainly got out of my head in the colloquial sense, but what was I stepping into? Although the more basic semiotic modes of engagement involved in that activity quite literally brought me back to my senses and in the process regrounded me in a world beyond myself—beyond my mind, beyond convention, beyond the human—this experience has led me to ask what kind of world is this that lies out there beyond the symbolic? In other words, this experience, understood in the context of the anthropology beyond the human that I seek here to develop, forces me to rethink what we mean by the “real.”

We generally think of the real as that which exists. The palm tree that came crashing down in the forest is real; the shorn branches and crushed plants left **(p.58)** in the wake of its fall are

proof of its awesome facticity. But a restricted characterization of the real as something that happened—out there and lawbound—can't account for spontaneity, or life's tendency for growth. Nor can it account for the semiosis shared by the living—a semiosis that emerges from and ultimately grounds us humans in the world of life. Furthermore, such a characterization would dualistically reinscribe all possibility in that separate chunk of being we delimit as the human mind with no intimation of how that mind, its semiosis and its creativity, could have emerged from or otherwise be related to anything else.

Peirce was quite concerned with this problem of how to imagine a more capacious real that is more true to a naturalistic, nondualist understanding of the universe and, throughout his career, strove to situate his entire philosophical project—including his semiotics—within a special kind of realism that could encompass actual existence within a broader framework that would account for its relationship to spontaneity, growth, and the life of signs in human and nonhuman worlds. I turn here to a brief exposition of his framework because it provides a vision of the real that can encompass living minds and nonliving matter, as well as the many processes through which the former emerged from the latter.

According to Peirce there are three aspects of the real of which we can become aware (CP 1.23–26). The element of the real that is easiest for us to comprehend is what Peirce called “secondness.” The crashing palm is a quintessential second. Secondness refers to otherness, change, events, resistance, and facts. Seconds are “brutal” (CP 1.419). They “shock” (CP 1.336) us out of our habitual ways of imagining how things are. They force us to “think otherwise than we have been thinking” (CP 1.336).

Peirce's realism also encompasses something he called “firstness.” Firsts are “mere may-bes, not necessarily realized.” They involve the special kind of reality of a spontaneity, a quality, or a possibility (CP 1.304), in its “own suchness” (CP 1.424), regardless of its relation to anything else. One day out in the forest Hilario and I came across a bunch of wild passion fruits that had been knocked down by a troop of monkeys feeding up above. We took a break from our trek to snack on the monkeys' leftovers. As I cracked open the fruit, I caught, just for an instant, a pungent whiff of cinnamon. By the time I brought the fruit to my mouth it was gone. The experience of the fleeting smell, in and of itself, without attention to where it came from, what it is like, or to what it connects, approaches firstness.

(p.59) Thirdness, finally, is that aspect of Peirce's realism that is the most important to the argument in this book. Drawing inspiration from the medieval Scholastics, Peirce insisted that “generals are real.” That is, habits, regularities, patterns, relationality, future possibilities, and purposes—what he called thirds—have an eventual efficacy, and they can originate and manifest themselves in worlds outside of human minds (CP 1.409). The world is characterized by “the tendency of all things to take habits” (CP 6.101): the general tendency in the universe toward an increase in entropy is a habit; the less common tendency toward increases in regularity, exhibited in self-organizing processes such as the formation of circular whirlpools in a river or crystal lattice structures, is also a habit; and life, with its ability to predict and harness such regularities and, in the process, create an increasing array of novel kinds of regularities, amplifies this tendency toward habit taking. This tendency is what makes the world potentially predictable and what makes life as a semiotic process, which is ultimately inferential,²³ possible.

For it is only because the world has some semblance of regularity that it can be represented. Signs are habits about habits. Tropical forests with their many layers of coevolved life-forms amplify this tendency toward habit taking to an extreme.

All processes that involve mediation exhibit thirdness. Accordingly, all sign processes exhibit thirdness because they serve as a third term that mediates between “something” and some sort of “someone” in some way. However, it is important to stress that for Peirce, although all signs are thirds, not all thirds are signs.²⁴ Generality, the tendency toward habit, is not a feature that is imposed on the world by a semiotic mind. It is out there. The thirdness in the world is the condition for semiosis, it is not something that semiosis “brings” to the world.

For Peirce everything exhibits, to some degree or other, firstness, secondness, and thirdness (CP 1.286, 6.323). Different kinds of sign processes amplify certain aspects of each of these to the neglect of others. Although all signs are intrinsically triadic, in that they all represent something to a someone, different kinds of signs attend more toward either firstness, secondness, or thirdness.

Icons, as thirds, are relative firsts in that they mediate by the fact that they possess the same qualities as their objects regardless of their relation to anything else. This is why Quichua imagistic “words” like *tsupu* cannot be negated or inflected. There is a way in which they are just qualities in their “own suchness.” Indices, as thirds, are relative seconds because they mediate by being **(p.60)** affected by their objects. The crashing palm startled the monkey. Symbols, as thirds, by contrast, are doubly triadic because they mediate by reference to something general—an emerging habit. They mean by virtue of the relationship they have to the conventional and abstract system of symbols—a system of habits—that will come to interpret them. This is why understanding *causanguichu* requires a familiarity with Quichua as a whole. The symbolic is a habit about a habit that, to a degree unprecedented elsewhere on this planet, begets other habits.

Our thoughts are like the world because we are of the world.²⁵ Thought (of any kind) is a highly convoluted habit that has emerged out of, and is continuous with, the tendency in the world toward habit taking. In this manner Peirce’s special kind of realism can allow us to begin to envision an anthropology that can be about the world in ways that recognize but also go beyond the limits of human-specific ways of knowing. Rethinking semiosis is the place from which to begin such an endeavor.

It is through this expanded vision of the real that we can consider what it was that I was getting out of when that bird came into focus through the glass of my binoculars, and what it was in that process that I stepped into. As Capps and Ochs astutely point out, what is so disturbing about panic is the feeling of being out of sync with others. We come to be alone with thoughts that become increasingly cut off from the broader field of habits that gave rise to them. In other words, there is always the danger that symbolic thought’s unmatched ability to create habit can pull us out of the habits in which we are inserted.

But the living mind is not uprooted in this way. Thoughts that grow and are alive are always about something in the world, even if that something is a potential future effect. Part of the

generality of thought—its thirdness—is that it is not just located in a single stable self. Rather, it is constitutive of an emerging one distributed over multiple bodies:

Man is not whole as long as he is single[;] ... he is essentially a possible member of society. Especially, one man's experience is nothing, if it stands alone. If he sees what others cannot, we call it hallucination. It is not "my" experience, but "our" experience that has to be thought of; and this "us" has indefinite possibilities. (Peirce CP 5.402)

This "us" is a general.

And panic disrupts this general. With panic there is a collapse of the triadic relation linking my habit-making mind to other habit-making minds vis-à-vis our ability to share the experience of the habits of the world that we discover. **(p.61)** The solipsistic enfolding of an increasingly private mind onto itself results in something terrifying: the implosion of the self. In panic the self becomes a monadic "first" severed from the rest of the world; a "possible member of society" whose only capability is to doubt the existence of any of what Haraway (2003) calls its more "fleshly" connections to the world. The result, in sum, is a skeptical Cartesian *cogito*: a fixed "I (only) think (symbolically) therefore I (doubt that I) am" instead of a growing, hopeful, and emergent "us" with all its "indefinite possibilities."²⁶

This triadic alignment that results in an emergent "us" is achieved indexically and iconically. Consider Lucio's running commentary after he shot the woolly monkey that had been scared out of her treetop perch by the palm tree that Hilario felled:

there
right there
there
what's gonna happen?
there, it's curled up in a ball
all wounded²⁷

Hilario, whose eyesight is not as good as Lucio's, wasn't immediately able to see the monkey up in the tree. Whispering, he asked his son, "Where?" And as the monkey suddenly began to move Lucio rapidly responded, "Look! look! look! look!"

The imperative "look!" (Quichua "*ricui!*") functions here as an index to orient Hilario's gaze along the path of the monkey's movement across the length of the branch. As such it aligns Hilario and Lucio vis-à-vis the monkey in the tree. In addition, Lucio's rhythmic repetition of the imperative iconically captures the pace of the monkey's movement along the branch. Through this image that Hilario can also come to share, Lucio can "directly communicate" his experience of seeing the wounded monkey moving through the canopy, regardless of whether his father actually managed to see her.

It is precisely this sort of iconic and indexical alignment that brought me back into the world the moment that tanager came into focus in my binoculars. That crisp image of the bird sitting right there in those shrubs grounded me again in a shareable real. This is so even though icons and indices do not provide us with any immediate purchase on the world. All signs involve mediation,

and all of our experiences are semiotically mediated. There is no **(p.62)** bodily inner, or other kind of experience or thought that is unmediated (see Peirce CP 8.332). Furthermore, there is nothing intrinsically objective about this real tanager feeding on a real riverbank plant. For this animal and its shrubby perch—like me—are semiotic creatures through and through. They are the results of representation. They are outcomes of an evolutionary process of ever-increasing alignment with those proliferating webs of habits that constitute tropical life. Such habits are real, regardless of whether or not I can appreciate them. By acquiring a feel for some of these habits, as I did with that tanager on the river's edge that morning, I can potentially become aligned with a broader "us" thanks to the way others can share this experience with me.

Like our thoughts and minds, birds and plants are emergent reals. Life-forms, as they represent and amplify the habits of the world, create new habits, and their interactions with other organisms create even more habits. Life, then, proliferates habits. Tropical forests, with their high biomass, unparalleled species diversity, and intricate coevolutionary interactions, exhibit this tendency toward habit taking to an unusual degree. For people like the Ávila Runa, who are intimately involved with the forest through hunting and other subsistence activities, being able to predict these habits is of the utmost importance.

So much of what draws me to the Amazon is the ways in which one kind of third (the habits of the world) are represented by another kind of third (the human and nonhuman semiotic selves who live in and constitute this world) in such a way that more kinds of thirds can "flourish" (see Haraway 2008). Life proliferates habits. Tropical life amplifies this to an extreme, and the Runa and others who are immersed in this biological world can amplify this even further.

Growth

Being alive—being in the flow of life—involves aligning ourselves with an ever-increasing array of emerging habits. But being alive is more than being in habit. The lively flourishing of that semiotic dynamic whose source and outcome is what I call self is also a product of disruption and shock. As opposed to inanimate matter, which Peirce characterized as "mind whose habits have become fixed so as to lose the powers of forming them and losing them," mind (or self) "has acquired in a remarkable degree a habit of taking and laying aside habits" (CP 6.101).

(p.63) This habit of selectively discarding certain other habits results in the emergence of higher-order habits. In other words, growth requires learning something about the habits around us, and yet this often involves a disruption of our habituated expectations of what the world is like. When the pig that Maxi shot plunged—tsupu—into the river, as wounded pigs are known to do, Maxi assumed that he had gotten his quarry. He was wrong:

foolishly, "it's gonna die" I'm thinking
when
it suddenly ran off²⁸

Maxi's feeling of bewilderment occasioned by the supposedly dead peccary suddenly jumping up and running off reveals something of what Haraway (1999:184) calls "a sense of the world's independent sense of humor." And it is in such moments of "shock" that the habits of the world make themselves manifest. That is, we don't usually notice the habits we in-habit. It is only when the world's habits clash with our expectations that the world in its otherness, and its existent

actuality as something other than what we currently are, is revealed. The challenge that follows this disruption is to grow. The challenge is to create a new habit that will encompass this foreign habit and, in the process, to remake ourselves, however momentarily, anew, as one with the world around us.

Living in and from the tropical forest requires an ability to make sense of the many layers of its habits. This is sometimes accomplished by recognizing those elements that appear to disrupt them. On another walk in the forest with Hilario and his son Lucio we came across a small bird of prey, known in English as the hook-billed kite,²⁹ perched in the branches of a small tree. Lucio shot at it but missed. Frightened, the bird flew off in a strange manner. Rather than fly rapidly through the understory, as raptors are expected to do, it lumbered off quite slowly. As he pointed in the direction in which it went Lucio remarked:

it just went off slowly
tca tca tca tca
there³⁰

Tca tca tca tca. Throughout the day Lucio repeated this sonic image of wings flapping slowly, hesitantly, and somewhat awkwardly.³¹ The kite's cumbersome flight caught Lucio's attention. It disrupted the expectation that **(p.64)** raptors should exhibit swift and powerful flight. Similarly the ornithologists Hilty and Brown (1986: 91) describe the hook-billed kite as having unusually "broad lanky wings" and being "rather sedentary and sluggish." Compared to other raptors that exhibit swifter flight, this bird is anomalous. It disrupts our assumptions about raptors, and this is why its habits are interesting.

Another example: upon returning home one morning from a hunt Hilario pulled out from his net bag an epiphytic cactus (*Discocactus amazonicus*) dotted with purple flowers. He called it *viñarina panga* or *viñari panga*, because, as he explained, "*pangamanda viñarín*," "it grows out of its leaves." It has no particular use, although, like other succulent epiphytes such as orchids, he thought that the macerated stem might make a good poultice to apply to cuts. But because the leaves of this plant appear to grow out of other leaves, Hilario found this plant strange. The name "*viñari panga*" gets at a botanical habit that extends deep into the evolutionary past. Leaves do not grow out of other leaves. They can only grow out of the meristematic tissue located in buds on twigs, stems, and branches. The ancestral group within the cacti, from which *D. amazonicus* is derived, originally lost its laminar photosynthetic leaves and developed succulent rounded photosynthetic stems. Those flattened green structures that grow out of each other in *D. amazonicus* are therefore not true leaves. They are actually stems that function as leaves and for this reason they can grow out of each other. These leaflike stems appear to put into question the habit that leaves sprout from stems. This is what makes them interesting.

Wholes Precede Parts

In semiosis, as in biology, wholes precede parts; similarity precedes difference (see Bateson 2002:159). Thoughts and lives both begin as wholes—albeit ones that can be extremely vague and underspecified. A single-celled embryo, however simple and undifferentiated, is just as whole as the multicellular organism into which it will develop. An icon, however rudimentary its likeness, insofar as it is taken as a likeness, imperfectly captures the object of its similarity as a

whole. It is only in the realm of the machine that the differentiated part comes first and the assembled whole second.³² Semiosis and life, by contrast, begin whole.

An image, then, is a semiotic whole, but as such it can be a very rough approximation of the habits it represents. One afternoon while drinking manioc beer at Ascencio's house we heard Sandra, Ascencio's daughter, cry out **(p.65)** from her garden some way off, "A snake! Come kill it!"³³ Ascencio's son Oswaldo rushed out, and I followed close behind. Although the creature in question turned out to be an inoffensive whipsnake,³⁴ Oswaldo killed it anyway with a blow from the broad side of his machete and then severed and buried its head.³⁵ As we walked back to the house Oswaldo pointed out a little stump that I had just stumbled on and noted that he had seen me stumble on the very same stump the day before on our return along that path after a long day out hunting with his father and brother-in-law in the steep forested slopes west of Ávila.

On those walks with Oswaldo back to the house my ambulatory habits had only imperfectly matched the habits of the world. Because of fatigue or mild inebriation (the first time I had stumbled on that stump we had hiked more than ten hours over very steep terrain and I was exhausted, the second time I had just finished off several big bowls of manioc beer) I simply failed to interpret some of the features of the path as salient. I acted as if there were no obstacles. I could get away with this because my regular gait was an interpretive habit—an image of the path—that was good enough for the challenge at hand. Given the conditions that we faced it didn't really matter if the way I walked didn't perfectly match the features of the path. If, however, we had been running, or if I had been burdened by a heavy load, or if it had been raining heavily, or if I had been a little bit more tipsy, that lack of fit may well have become amplified, and instead of slightly stumbling I might well have tripped and fallen.

My tipsy or fatigued representation of the forest path was so rudimentary that I failed to notice its differences. Until Oswaldo pointed it out to me I never noticed the stump, or that I had stumbled on it—twice! My stumbling had become its own fixed habit. By virtue of the regularity my imperfect walking habit had assumed—so regular that I could repeatedly kick the same stump on successive days—it became visible to Oswaldo as its own anomalous habit. And yet, however imperfect its match to the path, my manner of walking was good enough. It got me home.

But there was something lost in that "good enough" habituated automatization. Perhaps that day walking back to Ascencio's house, I had become, for a moment, more like matter—"mind whose habits had become fixed"—and less a learning and yearning, living and growing self.

Unexpected events, such as the sudden appearance of a stump across our path—when we manage to notice it—or Maxi's peccary suddenly reviving can **(p.66)** disrupt our assumptions of how the world is. And it is this very disruption, the breakdown of old habits and the rebuilding of new ones, that constitutes our feeling of being alive and in the world. The world is revealed to us, not by the fact that we come to have habits, but in the moments when, forced to abandon our old habits, we come to take up new ones. This is where we can catch glimpses—however mediated—of the emergent real to which we also contribute.

Recognizing how semiosis is something broader than the symbolic can allow us to see the ways we come to inhabit an ever-emerging world beyond the human. An anthropology beyond the

human aims to reach beyond the confines of that one habit—the symbolic—that makes us the exceptional kinds of beings that we believe we are. The goal is not to minimize the unique effects this habit has but only to show some of the different ways in which the whole that is the symbolic is open to those many other habits that can and do proliferate in the world that extends beyond us. The goal, in short, is to regain a sense of the ways in which we are open wholes.

This world beyond the human, to which we are open, is more than something “out there” because the real is more than that which exists. Accordingly, an anthropology beyond the human seeks a slight displacement of our temporal focus to look beyond the here and now of actuality. It must, of course, look back to constraints, contingencies, contexts, and conditions of possibility. But the lives of signs, and of the selves that come to interpret them, are not just located in the present, or in the past. They partake in a mode of being that extends into the future possible as well. Accordingly, this anthropology beyond the human aims to attend to the prospective reality of these sorts of generals as well as to their eventual effects in a future present.

If our subject, the human, is an open whole, so too should be our method. The particular semiotic properties that make humans open to the world beyond the human are the same ones that can allow anthropology to explore this with ethnographic and analytical precision. The realm of the symbolic is an open whole because it is sustained by, and ultimately cashed out in, a broader, different kind of whole. That broader whole is an image. As Marilyn Strathern once said to me, paraphrasing Roy Wagner, “You can’t have half an image.” The symbolic is one particular human-specific way to come to feel an **(p.67)** image. All thought begins and ends with an image. All thoughts are wholes, however long the paths that will bring them there may be.³⁶

This anthropology, like semiosis and life, does not start with difference, otherness, or incommensurability. Nor does it start with intrinsic likeness. It begins with the likeness of thought-at-rest—the likeness of not yet noticing those eventual differences that might come to disrupt it. Likenesses, such as *tsupu*, are special kinds of open wholes. An icon is, on the one hand, monadic, closed unto itself, regardless of anything else. It is like its object whether or not that object exists. I feel *tsupu* whether or not you do. And yet, insofar as it stands for something else, it is an opening as well. An icon has the “capacity of revealing unexpected truth”: “by direct observation of it other truths concerning its object can be discovered” (Peirce CP 2.279). Peirce’s example is an algebraic formula: because the terms to the left of the equals sign are iconic of those to the right we can learn something more about the latter by considering the former. That which is to the left is a whole. It captures that which is to its right in its totality. And yet in the process it is also able to suggest, “in a very precise way, new aspects of supposed states of things” (CP 2.281). This is possible, thanks to the general way it stands for this totality. Signs stand for objects “not in all respects but in reference to a sort of idea” (CP 2.228). This idea, however vague, is a whole.

Attending to the revelatory power of images suggests a way to practice an anthropology that can relate ethnographic particulars to something broader. The inordinate emphasis on iconicity in lowland Quichua amplifies and makes apparent certain general properties of language and the relation that language has to that which lies beyond it, just as panic exaggerates and therefore makes apparent other properties. These amplifications or exaggerations can function as images

that can reveal something general about their objects. Such generals are real despite the fact that they lack the concreteness of the specific or the fixed normativity of those putative universals that anthropology rightly rejects. It is to such general reals that an anthropology beyond the human can gesture. It does so, however, in a particularly worldly way. It grounds itself in the mundane strivings and stumblings that emerge in the ethnographic moment, with a view to how such contingent everydays make apparent something about general problems.

My hope is that this anthropology can open itself to some of the new and unexpected habits just coming into being that might catch it up. By opening itself to novelty, images, and feelings, it seeks the freshness of firstness in its **(p.68)** subject and method. I ask you to feel tsupu for yourself, and this is something I cannot force upon you. But it is also an anthropology of secondness in that it hopes to register how it is surprised by the effects of such spontaneities as they come to make a difference in a messy world that is the emergent product of all the ways in which its motley inhabitants engage with and attempt to make sense of each other. Finally, this is an anthropology of the general, for it aims to recognize those opportunities where an *us* that exceeds the limits of individual bodies, species, and even concrete existence can come to extend beyond the present. This *us*—and the hopeful worlds it beckons us to imagine and realize—is an open whole. **(p.69) (p.70)**



Notes:

- (1) . I largely follow here the anthropological linguist Janis Nuckolls (1996) in her linguistic conventions for parsing Quichua. “Live” is an English gloss of the lexeme *causa-*; “2” indicates that it is conjugated for the second-person singular; “INTER” indicates that *-chu* is an interrogative, or question-marking suffix (see Cole 1985: 14–16).
- (2) . In structuring my argument by asking you, the reader, to feel *tsupu*, I ask you to bracket, for a moment, your skepticism. But the argument still holds even if you don’t “feel *tsupu*.” As I will be discussing, *tsupu* exhibits formal properties (shared with similar sound images in all languages) that support the argument at hand (see also Sapir 1951 [1929]; Nuckolls 1999; Kilian-Hatz 2001).
- (3) . I adopt “becoming worldly” from Donna Haraway (see Haraway 2008: 3, 35, 41) to invoke the possibility of inhabiting unprecedented and more hopeful emergent worlds through a practice of attention to those beings—human and nonhuman—that, in so many different ways, stand beyond us. Human language is both an impediment to and a vehicle for the realization of this project. This chapter attempts to explore how this is so.
- (4) . From Marshall Sahlins’s (1976:12) classic anthropological statement on the relationship between culture and symbolic meaning to biology: “In the symbolic event, a radical discontinuity is introduced between culture and nature.” This echoes Saussure’s (1959: 113) insistence on the “radically arbitrary” bond between “sound” (cf. nature) and “idea” (cf. culture).
- (5) . This canopy emergent tree bearing big peapod-like fruits is known as *puca pacai* in Ávila (Latin *Inga alba*, Fabaceae-Mimosoideae).
- (6) . See Kohn (2002b: 148–49) for the Quichua text.
- (7) . For the purposes of this book I am collapsing a more complex division of the semiotic process, which, according to Peircean semiotics, involves three aspects: (1) a sign can be understood in terms of the characteristics it possesses in and of itself (whether it is a quality, an actual existent, or a law); (2) it can be understood in terms of the kind of relation it has to the object it represents; and (3) it can be understood in terms of the way its “interpretant” (a subsequent sign) represents it and its relation to its object. By using the term *sign vehicle* I am focusing here on the first of these three divisions. In general, however, as I will explain in the text, I am only treating signs as icons, indices, or symbols. In the process I am consciously collapsing the triadic division outlined above. Whether a sign is an icon, index, or symbol refers technically only to the second of the three divisions of the sign process (see Peirce CP 2.243–52).
- (8) . Cf. Peirce’s discussion of how suppression of certain features draws the attention to other ones in what he terms “diagrammatic icons” (Peirce 1998b: 13).
- (9) . Of course the icon *pu oh* can also serve as an index (to be defined later in the text) at another level of interpretation. Like the event it is like, it can also startle someone who hears it.
- (10) . See Peirce (1998d: 8).

(11) . See Peirce (CP 1.346,1.339).

(12) . See Peirce (CP 1.339).

(13) . In this regard, note how in Peirce's pragmatism, "means" and "meaning" are related (CP 1.343).

(14) . See Peirce (CP 1.213).

(15) . Note that by recognizing how all signs, linguistic and otherwise, always "do things" we no longer need to appeal to a performative theory to make up for the deficiencies of a view of language as reference bereft of action (see Austin 1962).

(16) . See my discussion in the introduction on how even those anthropological approaches that recognize signs other than symbols still see these as exclusively human and interpretively framed by symbolic contexts.

(17) . Latin *Solanum quitoense*.

(18) . See Kohn (1992).

(19) . This example is adapted from Deacon's (1997: 75-76) discussion of iconism and the evolution of cryptic moth coloration.

(20) . The argument I make here about the logical relation of indexicality to iconicity follows and is adapted from Deacon (1997: 77-78).

(21) . Deacon is describing and semiotically reinterpreting the research of Sue Savage - Rumbaugh (see Savage-Rumbaugh 1986).

(22) . See also Peirce (CP 2.302) and Peirce (1998d: 10).

(23) . By "inferential" I mean that lineages of organisms constitute "guesses" about the environment. Via an evolutionary selective dynamic organisms come increasingly to "fit" their environment (see chapter 2).

(24) . This tends to be collapsed in anthropological treatments of Peirce. That is, thirdness tends to be seen only as a human symbolic attribute (see, e.g., Keane 2003: 414,415,420) rather than a property inherent to all semiosis and, in fact, to all regularity in the world.

(25) . "[The categories of firstness, secondness, and thirdness] suggest a way of thinking; and the possibility of science depends upon the fact that human thought necessarily partakes of whatever character is diffused through the whole universe, and that its natural modes have some tendency to be the modes of action of the universe" (Peirce CP 1.351).

(26) . And yet we must also recognize Descartes's insights about the "firstness" of feeling and of self "I think therefore I am" loses its sense (and feeling) when it is applied to the plural or to the second or third person—just as only you—as an *I*—can feel *tsupu*.

(27) . See Kohn (2002b: 150–51) for Quichua text.

(28) . See Kohn (2002b: 45–46) for Quichua text.

(29) . Quichua *pishcu anga*.

(30) . See Kohn (2002b: 76) for Quichua text.

(31) . As such, it is related to *ticu*, which is used in Ávila to describe clumsy ambulation (see Kohn 2002b: 76).

(32) . See Bergson (1911: 97). Such a mechanistic logic is only possible because there is already a (whole) self outside the machine that designs or builds it.

(33) . “Huañuchi shami machacui.”

(34) . Quichua *huaira machacui*; Latin *Chironius* sp.

(35) . See Whitten (1985) on this practice of severing the head from the snake’s body and its potential symbolism.

(36) . Steve Feld’s *Sound and Sentiment* (1990) is an instantiation of this; it is a book-long meditation on the symbolic structures through which the Kaluli (and, eventually, the anthropologist writing about them) come to feel an image.

