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Eco-Ethical Knowledge from the Indigenous Amazon and the Reimagining of Nature

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This article explores how Indigenous communities of the Brazilian Amazon conceive the relationship between humans and the natural world, contrasting their relational, eco-ethical understanding with the mechanistic view of nature that emerged in early modern Europe. Drawing on ethnographic work among the Yanomami, Tukano, Enawene-Nawe, Wajãpi, and Krahô, we connect early Indigenous critiques of the European drive for accumulation to present-day debates over multispecies agency. Since these Indigenous ontologies frame plants, animals, and spirits as intentional beings within networks of reciprocity, they reveal a metaphysical continuity between humans and nonhumans, challenging Western assumptions about nature as inert matter. By juxtaposing these perspectives with contemporary reflections—from Eduardo Viveiros de Castro to Davi Kopenawa—we argue that Indigenous eco-ethical knowledge from the Amazon offers an alternative to the exploitative logics driving the current ecological crisis and expands previous concepts of Indigenous relationality. We suggest that the Indigenous Amazonian worldview invites a reimagining of human–nature relations grounded in complex forms of multifaceted relationality.

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Introduction

In 1934, when Claude Lévi-Strauss (1972) first arrived in Brazil, he carried a book by a Calvinist missionary, Jean de Léry (1993). Tucked in the anthropologist's jacket, *History of a Voyage to the Land of Brazil*, originally published in 1578, describes the surprise experienced by both sides as Europeans encountered Brazil's Indigenous people.

Léry reports that the Tupinamba people were astonished by the French desire to secure large quantities of brazilwood. With evident confusion, an old man from the tribe asked, "What does it mean that you Mairs and Peros (that is, French and Portuguese) come from so far for wood to warm yourselves? Is there none in your own country?" Léry responded that they desired the wood not as fuel but for dye, but this did not satisfy his interlocutor. "Very well," he replied, "but do you need so much of it?" Léry patiently explained the mechanics of commerce in sixteenth-century Europe, in which merchants accumulated vast quantities of valuable goods well beyond their individual needs. According to Léry, however, this did nothing to clear up the matter: "'Ha, ha!' said my savage, 'You are telling me of wonders.'"

Léry (1993, 101–2) reports that his Tupinamba interlocutor continued with a series of penetrating questions:

> Then, having thought over what I had said to him, he questioned me further, and said,
> "But this man of whom you speak, who is so rich, does he never die?"
> "Certainly he does," I said, "just as others do."
> At that (since they are great discoursers, and pursue a subject out to the end) he asked me,
> "And when he is dead, to whom belong all the goods that he leaves behind?"
> "To his children, if he has any, and if there are none, to his brothers, sisters, or nearest kinsmen."

Once again, Léry's explanation is entirely conventional according to the norms of early modern Europe: the merchant class accumulates wealth in order to enrich themselves and support their inheritors. However, following Léry's response, the Tupinamba man drew the following conclusion: "I see now that you Mairs (that is, Frenchmen) are great fools; must you labour so hard to cross the sea, on which (as you told us) you endured so many hardships, just to amass riches for your children or for those who will survive you? Will not the earth that nourishes you suffice to nourish them?" (Léry 1993, 102). For someone who had learned to trust the nurturing earth, the European desire for wealth seemed like simple insanity.

Immediately after, Léry (1993, 102) shrewdly adds the following gloss: "And there you have a brief and true summary of the discourse that I have heard from the very mouth of a poor savage American. This nation, which we consider so barbarous, charitably mocks those who cross the sea at the risk of their lives to go seek brazilwood in order to get rich."

Revisiting this dialogue now—following four and a half centuries of unfettered commerce—the Tupinamba critique is compelling. In an echo of this insight, some argue that the pursuit of wealth has been enormously damaging for the people who were colonized, the ecologies damaged by exploitation, and the communities distorted by the strange desire for accumulation. It seems that Lévi-Strauss was drawn to Léry because he describes an Indigenous response to a European mindset. Despite the limitations of his missionary narrative, Léry offers a window into the other observing us, refracting European habits in a way that clarifies that they are (within the wide span of the world) unusual.

This article argues that Indigenous communities in the Brazilian Amazon conceive the relationship between humans, nonhumans, and the natural world in a way that blends specific knowledge (of plants, animals, seasons, etc.) with ethical and social behavioral rules. Theorists such as Akeel Bilgrami (2010) and Mohamed Meziane (2024) connect colonial and economic exploitation to an objectified understanding of nature as something inert, subject to calculation and manipulation. In contrast, Indigenous Amazonian communities understand the ecology of the forest to be continuous with human relationships of power and meaning. As we will describe, this is particularly evident in the boundary between humans and nonhuman beings, which involves a complex form of relationality that often includes strict rules of acceptable and forbidden behavior. By exploring this perspective, we aim to suggest that Western people might relate differently to the world—and to each other—than the prevailing economic and knowledge systems allow.[1]

Naturalism and Exploitation

As the example of Léry suggests, modern Europeans have tended to view the natural world as inert matter, available for exploitation and devoid of spiritual meaning. According to Bilgrami (2010), members of the Royal Society in England argued that the universe operates according to immanent laws, free from disruptive intervention by the divine. Following the work of Isaac Newton and Robert Boyle, matter came to be understood as "brute" and "stupid" (Bilgrami 2010, 39). This meant that material regularities could be studied in the emerging sciences, but it also prevented the world from imposing any normative constraints on human action (Bilgrami 2010, 40). Bilgrami concludes that this impersonal attitude toward the world was inseparable from efforts to exploit it

for economic profit. From this perspective, the plantation, the colony, and the laboratory rest on a shared understanding of mechanical nature.

Charles Taylor (2007) calls this understanding of nature "the immanent frame," which separates nature from a supernatural order that transcends it. In Taylor's (2007, 542) analysis, the emergence of post-Galilean natural science sparked this shift in perspective; once the physical universe was understood to be governed by ordered regularity, understanding these laws did not require any reference to the intentions of a creator. Just as this allowed the immanent realm to be understood on its own terms, a new conception of the self-sufficient individual, buffered against outside forces, enabled people to experience immanence in everyday life (Taylor 2007, 543).

Recent scholarship has shown that this understanding of immanence is culturally contingent. In Peter Harrison's (2024) analysis, the success of the natural sciences led some people to conclude that material reality is all that exists. On this narrative, medieval people believed in supernatural forces, but modern science has shown that everything can be explained with reference to natural laws. As Harrison describes, changing attitudes toward the miraculous were pivotal to this shift. Whereas premodern Christians thought God regularly intervened in the natural world, miracles came under increasing suspicion in the early modern period. This shift began in intra-Christian polemics: following the Reformation, Catholic theologians appealed to miracles to bolster the authority of the church, while Protestant theologians sought to discredit them (Harrison 2024, 104–10). Before long, critics of religion such as David Hume (2008) adapted these arguments to discredit all miracles, including those described in Christian scripture. Once the supernatural came under suspicion, the natural world came to seem stable and self-contained.

When refracted through the prism of scientific progress, Indigenous worldviews seem like a misunderstanding that modern naturalism has dispelled. In Jean de Léry's dialogue with the Tupinamba leader, it is clear that these Indigenous peoples experienced the boundary between human and nonhuman beings to be porous and flexible. Although this violates the perspectival foundation of empirical science, Harrison's scholarship suggests that the binary between naturalism and supernaturalism is not simply a fact about the world—it is a historically and culturally specific interpretation. Where many assume that scientific naturalism supplanted the mystifications of medieval religion, the concept of the supernatural only took hold in the early modern period. As Harrison (2024, 255; 2006) describes, classical Greek and early Christian authors did not have a term through which they could refer to events violating the laws of nature. For them, the miraculous was associated with the experience of wonder rather than with a specific kind of causation (Ward 1999; Daston 1991; Newheiser 2025). This suggests that the division between empirical science and

spiritual experience is not inevitable: whereas naturalism and supernaturalism were both invented in modern Europe, experience has taken different forms in other times and places.

Metaphysical versus Physical Discontinuity between Humans and Nonhumans

Whereas modern Europeans have tended to divide the natural order (governed by mechanical laws) from the spiritual realm (which stands above or beyond nature), the Tukano and Yanomami trouble the familiar distinction between nature and the supernatural: for them, the material world is permeated with spiritual meaning. According to the Brazilian anthropologist Viveiros de Castro, Indigenous Amazonian communities see the division between what is a human, what is an animal, and what is an invisible entity as fluid and multidimensional: an animal can, under certain circumstances, experience reality like a human, and vice versa. Nonhuman entities, whether animal or gods, can think like humans, and so can humans think like other entities. Viveiros de Castro (2016, 197) calls this multispecies sense of agency perspectivism:

> Typically, in normal conditions, humans see humans as humans and animals as animals . . . Animals (predators) and spirits, however, see humans as animals (as prey), to the same extent that animals (as prey) see humans as spirits or as animals (predators). By the same token, animals and spirits see themselves as humans: they perceive themselves as (or become) anthropomorphic beings when they are in their own houses or villages and they experience their own habits and characteristics in the form of culture—they see their food as human food (jaguars see blood as manioc beer, vultures see the maggots in rotting meat as grilled fish etc.), they see their bodily attributes (fur, feathers, claws, beaks) as body decorations or cultural instruments, they see their social system as organized in the same way as human institutions are (with chiefs, shamans, ceremonies, exogamous moieties etc.). This "to see as" refers literally to percepts and not analogically to concepts.

This presents a clear contrast to the naturalism that has shaped Western science. Where scientific naturalism holds that there is nothing beyond the mechanical operation of natural forces, Indigenous Amazonian ontology sees nature itself as vibrant, permeated by a variety of nonhuman beings that think like humans—not only animals and trees but also spiritual beings and spirits of dead ancestors.

To take one example, the Yanomami state that the spirits of the dead think of themselves as living, embodied beings. In her fieldwork with the Yanomami, the anthropologist Hanna Limulja found that, although these spirits are dead,

they appear in the dreams of the living, asking them to come and join them in the new village they now inhabit. In this ongoing life after life, the spirits carry on as usual: fishing, hunting, eating, and engaging in sexual intercourse (Limulja 2022). These dreams are understood not as mere subjective experiences but as real encounters with dead ancestors.

Another example of the fluidity between our world and that of the spirits comes from the Tukano. They tell stories of special places in the forest that are gates to the spirit world, which you can walk into and talk to the spirits, who are similar to humans but taller and stronger. However, time moves faster there, and if you do not return quickly to the human world, you will find your young children as adults upon your return (Barreto et al. 2018). This detail underlines that the Tukano see nature as permeated by nonhuman beings that think and act like humans while remaining significantly distinct.

Levi-Strauss (1973, 384) provides an example that presents a similar contrast: "In the Greater Antilles, some years after the discovery of America, whilst the Spanish were dispatching inquisitional commissions to investigate whether the natives had a soul or not, these very natives were busy drowning the white people they had captured in order to find out, after lengthy observation, whether or not the corpses were subject to putrefaction." What the Indigenous peoples were inquiring about was whether the European bodies were human, like their own bodies, or whether they were spirits "dressed up" as humans—in which case, their bodies would not corrupt like human bodies. In this Indigenous system, the realness of the spirit is uncontested; all beings are understood to have an identical spiritual essence. Hence, for Indigenous people in the Greater Antilles, theological scrutiny by Christian inquisitors was entirely senseless. From their perspective, it is not the spirit that differentiates us from other beings, or from other humans, but the body.

Viveiros de Castro (2002) describes this as an example of what he calls multinaturalism. On this interpretation, Europeans posit a metaphysical discontinuity between humans and animals, which places humans above animals. In contrast, Indigenous Amazonian peoples acknowledge a physical discontinuity between humans and animals but claim that there is a metaphysical continuity between them, since all beings share a common spiritual nature. The human, animal, or spirit form becomes a kind of clothing that "conceals an internal human form, usually only visible to the eyes of the particular species or to certain transpacific beings such as shamans" (Viveiros de Castro 2016, 198). Thus, while modern Westerners tend to assume that there is one nature and various cultures, these Amazonians hold that there is one single spiritual essence (since we are all human under our clothing) but various "natures" (i.e., different bodies).

Our Common Humanity

According to Darwinian theory (1859), humans and nonhuman animals share inherited characteristics, but humans ultimately developed traits that make them distinct. In contrast, Amazonian cultures say that it is humanity rather than animality that is our common heritage. The leading Yanomami activist and shaman Kopenawa explains, "A very long time ago, when the forest was still young, our ancestors—who were humans with animal names—metamorphosed into game. The human wild pigs became wild pigs" (Kopenawa and Albert 2013, 61). Despite this metamorphosis from human into animal, he adds that "we are still their fellow creatures. Though we are humans, they give us the same name they give themselves. This is why I think our inner part is identical to that of game" (Kopenawa and Albert 2013, 387). In a reversal of the evolutionary narrative, the Yanomami and other Indigenous Amazonian peoples hold that in the beginning, humans were not animals but animals were human. This view, as Lévi-Strauss reminds us, is widely inscribed in Indigenous creation stories: "If you ask an American Indigenous person [what a myth is], their answer would very likely be that it is a story of the time when humans and animals were not different" (Lévi-Strauss and Eribon 1990, 178).

This could seem counterintuitive from the standpoint of Darwinian biology, but there are echoes with Western paradigms. In European schools, children are often taught that, from a biological perspective, humans are animals. However, this assumption does not entail that one must relate to a colleague or neighbor in the same way one would relate to an ox or a cow. Although continuities between humans and animals are acknowledged, distinct modes of relationship are maintained. In similar fashion, an Indigenous person meeting a jaguar in the Amazon would not usually relate to him as if they were meeting one's cousin. The difference is that the jaguar is also understood to have its own culture, with its own villages and special food and drink (Viveiros de Castro 2002, 405).

Because this Indigenous worldview may be unfamiliar, it is important to consider how it operates in specific examples. We will focus on the *multifaceted* relational character of the Indigenous interaction with the natural world. This multifaceted relationality includes the acquisition and utilization of practical knowledge about nature, but it does not set up a hierarchical division between the various dimensions of existence. On the other hand, this type of relationality is demanding for humans: there are clear rules relating to nonhuman beings, which, if not followed, may result in illness or even death. We will briefly describe three examples, one concerning the collection of honey from stingless bees by the Enewane-Nawe, a second regarding the plantation of sweet potatoes by the Krahô, and a third about the plantation of mandioc by the Wajãpi.

The Enewane-Nawe are an Amazonian tribe that mostly lives by fishing, planting manioc, and collecting honey. Their first contact with Western people was in 1974 (Mendes dos Santos 2006). The Enewane-Nawe search for and collect large quantities of honey for three months of the year. The honey is both consumed by humans and given as an offering to benevolent deities who protect them, as well as to plants they cultivate (which they also entertain by playing them music). Field research has shown that the Enewane-Wane are able to identify and differentiate between forty species of bees by associating their morphology to social and ecological characteristics such as the place and structure of their nests, their behavior, their alimentary habits, and the amount and flavor of their honey (Mendes dos Santos and Antonini 2008). Mendos dos Santos and Antonini give the example of the multitude of behaviors the Enawane-Nawe have learned about one species of bees whose honey is particularly sought and that feeds off the meat remains and excrements of the hawk (Harpia harpyia). Through closer observation, they have found that the hawk sweats more profusely after eating monkey meat, and its sweat attracts the bees.

Modern Europeans are accustomed to thinking that causal mechanisms help us explain phenomena in the real world, but the Enawane-Nawe exemplify a form of perception that is not concerned with explanation. Rather than theorizing causal relationships, the meaning and nexus of Enawane-Nawe knowledge is based on a series of connections and relations between various beings—human, animal, vegetable, spiritual. This way of knowing inverts the epistemological paradigm of European naturalism: where Western scientists aim to produce maximum objectivity by removing the observer's subjectivity and intentionality, the Enawane-Nawe see understanding as a way to venture more deeply into the intentionality of the object being studied by relating to it personally. Viveiros de Castro (2002, 408) explains: "Let us be subjective, a shaman would say, or we shall not understand anything. The [Indigenous] epistemological sin is lack of subjectivity."

Our second example is drawn from the Krahô, a group of Indigenous people from the center of Brazil. During her extensive fieldwork with the Krahô, Ana Morim de Lima (2017, 2018) found that Krahô women establish a relationship with the sweet potatoes they grow for food. They are like a parent to these potatoes: just as Krahô women undergo various food and behavioral restrictions after having a child, including sexual abstinence and not eating certain types of food, they practice the same restrictions after planting their potatoes. Restrictions of this kind are common throughout Krahô life, particularly during puberty and pregnancy, and they share a link: eating and sexual intercourse are often described with the same words in many of these Indigenous cultures (see Lévi-Strauss, 1962). Some of the practiced dietary restrictions are clearly based on the sense of humanlike perspective animals possess: women should not eat

a yellow armadillo when the sweet potatoes are growing because the family of the killed tatu will seek revenge by eating the potatoes. As the tubers grow, once the leaves begin to show, the Krahô women see themselves as good mothers, but if the potatoes fail to grow, they see themselves (and are seen by others) as mothers who have abandoned their children.

A third example concerns the Wajãpi and the plantation of mandioc (*Manihot esculenta*). The Wajãpi live in both Brazil and the French Guiana; in Brazil, they were officially contacted in 1973 and live in different locations in the Amazon region. They are known to cultivate over 100 varieties of mandioc (Oliveira 2012). In an interview with Joana Oliveira (2025), the first author of the present article queried why they would not tend to select the largest or least toxic mandioc, as it would be advantageous for them. She replied that they do not think in a Darwinian way about their vegetables; instead, they situate the mandioc within a network of relationships: this potato was given to me by a parent, that one comes from my cousin, this other one has a particular red flower. She went on to note that there is an adaptive value in having more diverse crops, for if one variety is killed off by a particular disease, the others may survive. A similar diversity has been recorded with the Tukano of the high Rio Negro, who are known to keep over 100 varieties of mandioc (Emperaire et al. 2009; França 2023). As with the Wajãpi, we find social, moral, and aesthetic reasons that justify keeping so many varieties—variety itself is a clear sign of a beautiful, well-kept mandioc plantation.

This Indigenous model where one parents vegetables follows a different pattern from the framework of European naturalism, which pursues technological mastery over nature. For the Krahô, Wajãpati, Tukano, and other Indigenous Amazonian peoples, nature is not simply mechanical—plants, like humans and animals, have wishes, desires, and social connections. This same logic underlies the behavior of the Enewane-Nawe when they offer honey and music to the plants they grow. While it is tempting to perceive this fostering of noninstrumental biodiversity as a Romantic enterprise where humans are deeply connected to nature, we must emphasize that human–nonhuman relationships contain practical knowledge of two kinds: first, knowledge about where and how to grow vegetables, find and retrieve honey, etc; second, knowledge about how to organize and shape the shared environment. This practical knowledge is dictated not only by a moral sense of respect for nonhuman species but by the biological need to share the same space, which often requires interspecies negotiations. For example, when the Wajãpi prepare the soil for planting, they first plant peppers in the middle of the plot, so that the powers who rule that space are driven away by the sting of peppers and do not feel disturbed by the human planting activity (Oliveira 2025).

From Mystical Participation to Eco-Ethical Knowledge

Classical anthropology has sometimes described Indigenous worldviews as imbued with a kind of undifferentiated holism, as in Lucien Lévi-Bruhl's (1926) sense of "mystical participation," which blurs the boundaries between self and nonhuman agents. In fact, Amazonian animism values the nonhuman world—plants, animals, spirits, and ancestors—as a deeply relational web of agents that are nevertheless distinct. In contrast to a generalized sense of mystical participation, these communities emphasize the agency of nonhumans with whom humans establish relations for their everyday living (Descola 2013). It is by living in this thick relational web that they have established a sustainable way of living that attends to the cycles of seasons, the characteristics of animals, plants, etc. We are not suggesting that Lévi-Bruhl (1926) was wrong to emphasize a sense of relationality within Indigenous cultures that, seen from a Western perspective, is densely interconnected. However, Indigenous Amazonian peoples describe a more complex form of relationality than previously considered, one that includes the possibility of nonhuman agents having a subjective interiority and culture.

Earlier authors have drawn on Indigenous traditions to associate ecology and relationality. Gregory Cajete (2000, 183) has argued that, for many Indigenous people, there is a reciprocal sense of "care and responsibility" between humans and nonhumans, which "is continually reaffirmed through the various expressions of Native technology." Enrique Salmón (2000, 2015) writes of a kincentric ecology, wherein humans view nonhumans as kin and they depend on each other for survival—if the conditions of kinship are broken, the integrity of the whole ecological system may be threatened. Similarly, Yuria Celidwen and Dacher Keltner (2023, 1) write of kin relationality and ecological belonging as two key dimensions of an Indigenous ethics that emphasizes, on the one hand, the interdependence of all living beings and, on the other, the way in which human identity is shaped around emotions of "responsibility and reverence for Nature."

In our analysis, Amazonian eco-ethical knowledge complicates these attempts to link ecology and relationality in three ways. First, the examples we have discussed ascribe a metaphysical continuity between humans and nonhumans; this provides an ontological ground for the thick relationality that characterizes earlier conceptions of eco-ethical knowledge. For the Amazonian groups we have described, eco-ethical knowledge emerges not simply from a feeling of respect for other species or concern for ecological balance—it entails awareness of a common multispecies origin that includes the presence of culture in nonhuman species. This awareness is enacted both in stories about other species and in behaviors that seek to manage how to relate to these nonhuman species.[2]

Second, Amazonian eco-ethical knowledge acknowledges a multifaceted relationality that varies according to the type of nonhuman agent, the context, and the circumstances of the encounter. In contrast to Lévi-Bruhl's (1926) undifferentiated sense of participation with nature, we find that the thick relationality of eco-ethical knowledge is highly structured. Nonhuman agents relate to humans in different ways: a jaguar is a predator who tastes human blood as if it were a good beer, while a tortoise requires a less demanding level of communication. Beyond a generalized respect for nature, eco-ethical knowledge addresses a multifaceted form of relationality that carries specific behavioral rules.

Laura Rival (2015) provides an illustration of this complex, multilayered relationality in her ethnography of the Huaorani from the Amazonian Ecuador. She writes that as they walk through the forest, they convey messages that combine ecological knowledge with human history, but this is a multifaceted form of knowing:

> Not only do walkers converse endlessly about the traces left by animals or about the material signs that evoke times long gone . . . but they also communicate different messages about the world according to context and circumstance. For instance, the same tree can be admired and poetically commented upon for its brand new and shiny leaves one day, only to be feared the next day, when a tempestuous wind animates it with a different, and much more dangerous, kind of energy (Rival 2015, 95).

As in the examples discussed, rather than experiencing a holistic relationship with nature as such, these walkers are attuned to material traces that are extremely specific.

Third, Amazonian eco-ethical knowledge explicitly engages European conceptions of nature as inert material available for exploitation. In Léry's dialogue, his Indigenous interlocutor is perplexed by the European desire to accumulate more and more wood. For him, this madness is a failure to trust in the nurturing world—the forest that feeds me will also feed my children, he says. Contemporary Yanomami leaders make a similar point. Kopenawa writes of Western people:

> [M]erchandise is truly like a fiancée to them! Their thought is so attached to it that if they damage it while it is still shiny, they get so enraged that they cry! They are really in love with it! They go to sleep thinking about it like you doze off with the nostalgia of a beautiful woman. It occupies their thoughts even after they fall asleep. So they dream of their car, their house, their money, and all their other goods—of those they already possess and those they desire again and again. It is so. Merchandise makes them euphoric and obscures all

> the rest of their mind . . . If the white people could hear other words than the words of merchandise, the way we do, they would know how to be generous and would be less hostile towards us. They would not want to eat our forest with such voracity. (Kopenawa and Albert 2013, 333)

For Kopenawa, "eating the forest" is not a metaphor. He was a child when his people had the first contact with a white man, a Canadian Evangelical missionary. As a young adult, he realized the only way for his people to survive was to become an international political activist, to fight the illegal goldmining in their lands.

Modern economies make every unit of exchange indistinct. (A dollar is the same as any other, just as a unit of gold is convertible to other currencies.) This obscures the human impact of extractive economies. As Kopenawa describes, mining brought new diseases that devastated groups who had no immunity, and it poisoned the river waters they used for drinking and cooking. Kopenawa attributes these tragedies to immeasurable greed. But rather than treating this as merely a moral failure or a civilizational obsession, he points at something psychologists would call a cognitive anomaly or even impairment: "Merchandise makes them euphoric and obscures all the rest of their mind." Our ability to reason and think clearly, Kopenawa suggests, becomes obscured through the euphoria of greed.

There are other instances in which Kopenawa expands on this cognitive impairment. In contrast with the Yanomami, "their minds are really forgetful . . . Their words do not seem to be able to stay in their minds. If they listen to a great number of them without making any drawing, they instantly vanish from their thought" (Kopenawa and Albert 2013, 372). At other times, he describes European thinking as foggy, their sleep as shallow, and their ability to dream as narrow and forgetful (in contrast with the Yanomami's ability to keep their dreams sharp in their minds throughout the day).

Crucially, Koepanawa indicates that these cognitive deficits are not exclusive to Western people. Kopenawa describes how those Yanomami hunters who do not follow the rules that forbid them to eat the meat from their own game are "seized by dizziness," walk through the forest "in a slumber," and are not able to see properly. By contrast, the good hunter not only sees his prey clearly at a distance but attracts them towards him by virtue of his behavior. This shows how, for the Yanomami, ethical behavior is associated with cognitive abilities such as seeing clearly and moral qualities such as generosity. On this view, to develop and sustain eco-ethical knowledge, one must follow various behavioral injunctions.

These examples suggest that Indigenous eco-ethical knowledge is a dynamic process and not simply something that, once acquired, remains unaltered. If an individual does not follow certain behavioral guidelines, this process can

be broken. This brokenness shows itself at the cognitive and physical levels (dizziness, slumber, etc). In our view, Amazonian eco-ethical knowledge can help us to connect the economic and political dimensions of the environmental crisis with moral and cognitive assumptions that are often overlooked.

Conclusions

As we have described, in early modern Europe, a mechanical understanding of the natural world emerged, which made it vulnerable to exploitation. Although this worldview presents itself as a purely empirical matter, some scholars have argued that it was bound up with politics from the beginning (Asad 2018, 10, 149–51). Bilgrami (2010, 44) writes, "To see God in every body and piece of matter, they anxiously argued, was to lay oneself open to a polity and a set of civic and religious institutions that were beholden to popular rather than scriptural and learned judgment and opinion." This suggests it is no accident that political authorities resisted the view that God is immanent in the world. On Bilgrami's analysis, elite power found the emerging scientism to be politically expedient because it centralized knowledge among established authorities. Some worried that a distributed spirituality was dangerous because it carried the potential to democratize moral knowledge. Against this background, studying the eco-ethical knowledge of Indigenous people may open new possibilities for public understanding, centered on the entanglement of spiritual and material realities.

For five centuries, narratives of encounters with Indigenous peoples in the Americas have stimulated both wonder and estrangement. Only recently, spurred by the climate crisis, we have started looking at how Indigenous forms of living present an ecologically bound cultural identity that contrasts with the Western dissociated identity where humans do not see themselves as part of nature. In this article, we have focused on Indigenous perspectives from the Amazon, which present a specific system of eco-ethical knowledge, characterized by a complex multifaceted relationality that differentiates itself from a generalized sense of "human interconnectedness within nature" (Redvers et al. 2022) or "mystical participation" with nature (Lévi-Bruhl 1926).

Although European cultures have themselves linked ecology and relationality in a range of ways, educated elites often assume that the material world is all that exists. This form of naturalism is often associated with (1a) a duality between humanity and nature, (2a) a utilitarian relationship with natural resources, and (3a) a hierarchical ontology where humans are above other species. In contrast, Indigenous Amazonian peoples espouse (1b) a fluid boundary between humanity and nature, (2b) reciprocal relationships with nonhuman species, and (3b) a horizontal ontology where humans, animals, and spirits share a common humanity.

As we have argued, these contrasting views have material consequences. Environmental scientists advocate on empirical grounds for biodiversity and ecosystem conservation, but this aim is the basis of existence for the Indigenous Amazonian peoples (Levis et al. 2024). Against Romantic views of unspoiled wilderness, Indigenous people have successfully conserved their environment by actively managing resources, not through simple inaction (Levis et al. 2017). Nor does Indigenous eco-ethical knowledge depend on a vague holism; it is built on a disciplined form of ethical practice, one characterized by intricately structured experience with nonhuman species.

Based on ethnographies of Indigenous Amazonian groups, the theoretical framework of anthropologists such as Viveiros de Castro (2002, 2016), and the critical insights of Indigenous leaders (e.g., Kopenawa and Albert 2013), our analysis of Amazonian eco-ethical knowledge expands previous work on the link between ecology and relationality in Indigenous thought. Building on concepts such as kincentric ecology (Salmón 2000, 2015) and ecological belonging (Celidwen and Keltner 2023), we have argued that Amazonian eco-ethical knowledge displays a multifaceted relationality that varies according to the type of nonhuman agent, the material environment, and the circumstances. By linking cognitive capacities and ethical practice, Amazonian groups specify behaviors that sustain and rupture this form of knowing.

Although eco-ethical knowledge has social, economic, and political ramifications, our focus on cognition brings with it fresh possibilities of exploration for disciplines that have rarely considered Indigenous knowledge. Such exploration is timely for two reasons. First, it intersects with the emergence of new forms of "crossed anthropology" in the Brazilian Amazon, where Indigenous anthropologists conduct ethnographies of the Western world from the perspective of their own Indigenous cultures (Mendes and Dias 2009). Second, this form of eco-ethical knowledge encourages scholars across many disciplines to reimagine how we conceive of nature.

Although the Indigenous Amazon is distant from early modern Europe, thinkers like Kopenawa point to possibilities that have been obscured by Western habits of imagination. The history of science suggests that these possibilities remain alive. As Harrison (2024) has shown, scientific naturalism was contested when it first emerged, and it represented a departure from the framework it replaced. In the late medieval period, the world was divided between inert matter and the spiritual realm. By the nineteenth century, theorists such as Thomas Henry Huxley (2009) came to see the spiritual as a superfluous hypothesis, leaving bare matter as the sole object of genuine knowledge. However, prior to these developments, Europeans did not separate the natural and the supernatural, and even now, many continue to live as if this boundary were blurry (Storm 2017).

If secular disenchantment remains contested, European traditions contain seeds of the eco-ethical knowledge represented by Kopenawa and others (Newheiser 2026). As Indigenous Amazonian traditions remind us, there are alternatives to the nexus between economic exploitation, ecological devastation, and disembodied relationship with the natural world. Engaging with the model of knowing we have explored here stimulates us to reimagine what nature might be and how we may relate to it.

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Notes

[1] There is a separate literature on Indigenous studies and the decolonization of research methods (e.g., Smith 2006; Romm 2015), which is not the subject of the current article and will not be dealt with here.

[2] A similar ontological perspective has been observed with Indigenous groups outside of the Amazon, such as with the Chewong in Malaysia (Howell 2015).

Competing Interests

The authors declare that they have no competing interests.

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