

Article

Extra-Botanical Capacities: Plant Agency and Relational Extractivism in Contemporary Amazonia

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Abstract

What is a plant? A photosynthesizing organism, molecule, commodity, songs, images, oniric experience, spirit. . . Indigenous perspectives show that plants cannot be thought of without the relationships that constitute them. We contextualize our reflection in plant extractive activities that, by reducing sociality with these non-humans to anonymous, non-situated knowledge, feed a transit of knowledge based on a relational extractivism. Thus, in this article, based on one historical case and another ethnographic one involving two South American plants—*cinchona* (*Cinchona officinalis*) and *matico* (*Piper aduncum*)—we present a reflection on plant agency from the perspective of Amazonian peoples, with the intention of showing how these beings are conceived of as subjects who are part of kinship relations, but also of predation. We take shamanic and artistic experiences as ethnographic cases to argue that the Western categories of biology are insufficient to define and circumscribe the so-called plant kingdom according to certain Amazonian conceptions.

Keywords: Amazonia; extra-botanical capacities; indigenous peoples; extractivism; plant agency; ontology; *cinchona*; *matico*



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1. What Is a Plant?

Natural human languages express different ways of ordering the world and its beings. It is striking that in many Amazonian Indigenous languages—as well as those of native peoples from other regions—there are no terms for inclusive macro-categories such as human, animal, and plant. The boundaries between these beings, therefore, do not correspond to those of biological taxonomy, suggesting continuities and discontinuities that are strange to, and at times contradictory with, the Western naturalist gaze.

In the case of botanical classifications, in particular, we can consider two major theoretical models that diverge in their cognitive and ontological assumptions [1] (p. 17) [2] (p. 175) [3,4]. On one hand, ethnobotanical and linguistic studies show that the absence of such categories does not imply a lack of these distinctions; as Berlin (ibid.) demonstrates, these would be major categories that, although covert, remain cognitively operative, as supported by indirect linguistic evidence. Thus, even though a macro-category for “plant” may not exist, according to this cognitive approach, the logical discontinuity remains relevant.

On the other hand, this absence could be considered an expression of non-distinction—a continuity among beings—that becomes notable in certain relational contexts. If humanity is the condition shared by all beings, as proposed by Amerindian perspectivism [5] or

animism [4], the continuity between nature and culture would render a categorical distinction between humans, plants, animals, and other beings less operative. After all, generic terms would lack logical, practical, cosmological, or taxonomic functionality [1] (p. 177) in multinatural¹ contexts of “relational ontologies” [7]. In the words of Descola [4] (p. 93),

Humans and most plants, animals, and meteors are persons (*aents*) with a soul (*wakan*) and an individual life. Seen in this light, it is easier to understand the lack of named suprageneric categories to designate the set of all plants or all animals, since the denizens of nature form a conceptual whole whose parts are homologous by virtue of their properties.

As clearly described in Amerindian myths, humans, plants, animals, and all non-human beings shared the same human condition that allowed them to communicate fully. On this mythical continuity or indistinction, Lévi-Strauss wrote extensively in his work, particularly in the *Mythologiques* tetralogy. In present times, despite the process of speciation having inscribed discontinuity² between beings, this is not enough to completely overcome a shared mythical human origin, so that the bodily differentiation between species can mask behaviors that, contextually, reveal a distinctly human identity, making relationships unstable and dangerous. After all, if a predatory non-human being presents itself as human to a human, according to the perspectivist vernacular, it is because it has lost its humanity, becoming its prey—in other words, it has come to be seen as non-human. In Amerindian landscapes, humanity is, therefore, always a matter of agonistic perspective.

In specific terms, the difference between species is not only external, bodily, but also incorporates constitutionally the change of point of view [9] (p. 110). That is, what defines a species is both its reflective point of view, about itself, and its relational point of view, from other species towards it. It is not a notion that distinguishes and segregates beings into static domains, but rather a principle of relation:

Thus, every species becomes ‘dual,’ consisting of a spiritual dimension (the ‘inner’ human ‘person’ of each species) and a bodily dimension (the ‘clothing’ or bodily equipment characteristic of the capacities of each species). (...) There is no longer a definition of species that can be made from a point of view independent of a ‘specific’ condition. Every species is a point of view on others (ibid).

If what distinguishes species is not, primarily and exclusively, their anatomical and morphological differences, but rather their habits and behaviors, or “what distinguishes species is much more their ethogram—what they eat, where they live, whether they are social or solitary, etc.—than their anatomy or physiology” [9] (p. 112), then there would be no cosmopractical or operative relevance to the macro-categories of plant, animal, and human. However, it is not about revising the complex literature on folk taxonomies in light of Amerindian perspectivism, nor about choosing between a cognitivist or ontologist model, but rather about highlighting other ways of ordering the natural world, of relating words and things, and thus making explicit that what is understood as animal can go beyond the limits of zoology or the plant beyond botany. “In a world where everything is human, humanity is an entirely different thing” [9] (p. 113), and this estrangement extends, as it should, to other beings, both animals and plants. Without assuming a taxonomic definition of plant, what other ways could we consider these beings in Amerindian contexts?

Based on one historical case and another ethnographic one involving two South American plants, we describe distinct conceptualizations of plants. The *cinchona* (*Cinchona officinalis*) serves as a model of appropriation that highlights the colonial role of botany as a science that enables imperial expansion into other territories at the cost of erasing local knowledge and the ecological and cosmological relationships that constitute plants. We understand acclimatization also as a process of cosmological simplification. The extractive

action, by transforming the plant into a commodity, is grounded in a long philosophical history of the ontological downgrading of these beings. In a systematic manner, we recap some moments in the construction of this disregard, and then move on to the recent revaluation of plant life, referred to by some authors as the “vegetal turn” (see [10]).

Following this discussion, we turn to the ethnographic case of *matico* (*Piper aduncum*) among Shipibo-Konibo communities in the Peruvian Amazon to further develop our hypothesis. We propose that, in Amerindian contexts, the therapeutic efficacy of a plant and its distinctive features can also be understood through what we term “extra-botanical capacities.”³ These capacities emerge from the insertion of the plant-being into a network of eco-cosmological relations of interdependence, thereby enabling plant agency beyond its strictly phytochemical or morphological properties.

2. A Story of Cinchona

In a square in the municipality of Chinchón, near Madrid, there is a bust of a woman on a marble block; her head is discreetly covered with a veil, and her austere gaze looks into the distance. On the pedestal that supports her is a bronze plaque revealing the identity of the honoree, “The people of Chinchón to Dona Francisca Enriquez de Rivera, Countess of Chinchón, Viceroy of Peru, discoverer of Cinchona, in 1629”, followed by the date of its inauguration on 15 March 1997. According to the myth that granted her fame, the vicereine had fallen ill during her stay in Lima with intermittent fever, and upon hearing the news, Don Juan López de Cañizares, the Corregidor of Loja (a district currently part of Ecuador), went to her aid, as he himself had been cured of a similar fever (see [11]). The miraculous remedy that saved Don Juan was administered by a Jesuit priest who, in turn, had learned how to use it from an Indigenous chief. An important detail for the efficacy and reliability of the remedy: the Indigenous person had been converted to Christianity beforehand.

According to the prevailing Galenic theory, the vicereine suffered from a disease, at the time known as putrid fever, which afflicted the patients at regular intervals. It was believed that this class of disease was caused by the poor quality of air in unhealthy areas, such as European cities and swampy regions, and thus was generically referred to as *mala aria*. This illness, which until then had no cure, had been afflicting all of Europe for centuries and soon crossed the Atlantic. After being cured by the then-unknown plant, the Countess began promoting its use in the hospitals of Lima’s capital. The success of the new treatment boosted the transatlantic trade of the medicine and its spread across the world.

In the twists and turns of this history, whose developments have unfolded over the past 470 years, what stands out is a yellowish powder with an extremely bitter and astringent taste—the source of countless political and scientific controversies, commercial rivalries, and religious diatribes. Known by many names—Countess’s powder, Jesuit’s powder, Jesuit’s bark, Cardinal’s powder, Loja tree, *bois de fièvre*, *bois des Indes*, *cascarilla*, *quarango*, *quinaquina*, *kin-kina*, Peruvian bark, Loja, *china*, *china-china*, *china-canna*, fever bark, *genciana índica*, *antiquartanario peruano*, *palo de calenturas*, *gannanaperide*, among others—the plant, now known as *cinchona* or *quina*, in Spanish, became widely disseminated for its antipyretic properties.

The *cinchona* tree originates from the Loja region, located in the Huancabamba Depression—a corridor created by an ecological and geographical break in the Andes that enables communication between east and west, facilitating the movement of species between the coast, the Amazon rainforest, and the mountains. Due to its biogeographical characteristics, this region has supported the diffusion of plants such as the *sacha tomate* or tree tomato, the potato, and the *cinchona*. A century after its “discovery”, a term employed here in its colonial sense, when *cinchona* bark had established itself as an essential remedy in various pharmacopoeias, Loja became the world’s most important center for the production

and trade of this medicine⁴. Despite its long-term exploitation being concentrated solely in this region, the names referencing Indigenous Quechua-speaking peoples disappeared from the literature: *yarachucchu* or *ccarachucchu*.

In contrast, for this tree, Linnaeus created a new botanical genus: *Cinchona*, belonging to the *Rubiaceae* family, like coffee. All its species (*Cinchona ledgeriana*, *C. officinalis*, *C. calisaya*, and *C. pubescens*) share the presence of quinine, an alkaloid central to the formulation of many modern pharmaceuticals. It is evident that the scientific nomenclature established in the 18th century retains its ties to colonization, rooted in its origin myth as the discovery of a European countess. In both this myth and its variations, what remains unchanged is the marginalization and gradual erasure of Indigenous contributions⁵.

Cinchona is just one of countless examples of how botany figures among the scientific disciplines enabled the exercise and expansion of colonial power. The acts of identifying, recognizing, naming, and classifying produce new taxonomies at the expense of local names and ways of knowing (see [14]). The colonial enterprise depends on the development of a new language to be applied on an entirely different scale of diversity and extent—that of the Americas—and must, at the same time, contend with the variability of local names and relationships. In a period when botanical representations and classifications were neither fixed nor precise, multiple names contended for the same plant. Thus, this new language also operates through simplification—epistemic, ecological, and cosmological—in order to prevent the profusion of plants and the instability of their names from imposing chaos on the desired order, while also conforming to the epistemic categories of European botany. All colonial science operates through erasure.

Cinchona is just one example—among many—that offers a compelling model to frame our argument. As a well-documented case, and due to the significant role it played in the vast transoceanic trade networks involving the appropriation and commercialization of plant species native to the Americas, the study of *cinchona* shows how botany can be counted among the scientific knowledge systems that supported and enabled the exercise and expansion of colonial capitalist power (see [15,16]).

3. Plant as Resource: Relational Extractivism

The fading of names fractures the bond between beings and their territory. Indeed, this colonial onomastic policy is a tool for controlling the imagination, populations, and nature. One of the first acts of colonization, therefore, is to rename places, plants, animals, and people, delegitimizing the names given by native peoples and turning them into objects exclusive to science and property of the Crown. “Discovering” is an act of appropriation, a procedure through which not only territories but also minerals, birds, insects, fish, plants, and people become commodities available because they are stripped of themselves and the connections that constitute them. The difficulty of nomenclature in providing an accurate description, combined with the technical challenges of sending plant samples, points to how communication between the near and the distant, the New and the Old World, formed one of the central axes of the colonial enterprise. Without a Latin label, these beings communicated nothing and, therefore, could not be cultivated and acclimatized in botanical gardens and herbariums, nor would they serve Western science.

The need to mobilize these new “products” from remote places, from the colonies, to European capitals encouraged the creation of techniques that made their movement possible. This same need produced representations that repositioned local knowledge within a scientific system with aspirations to universality. Just as plants were uprooted from their place of origin to be methodically transported and transplanted elsewhere, Indigenous names and knowledge related to these species were extracted and appropriated as raw material for colonial science⁶. However, as historian Samir Boumediene develops in his

book “La colonisation du savoir” [17], not all plants and names could be transferred across the seas. The scholarly construction of the world never suppresses the mediations, frictions, and epistemic and material resistances that give consistency to the world, producing a fractured image of nature. These are the non-Western origins of modernity. The Americas, in this sense, played a central role in the constitution of the world, bodies, and European natural knowledge; in other words, they were always good for thinking, though never enough to have their scientific value recognized.

Returning to the plant that serves as our guide, it is striking that for almost two centuries, only the bark or, at most, the powder produced from some of its parts, was known of the *cinchona* tree. A description of the whole plant took a long time to be made. Commercial interests carefully examined the plant in search of its profitable parts, and taxonomists ended up confused because they only knew scattered and disjointed information about it. The tree was reduced to its bark, and this, to the powder. The next step was the transformation of the powdered quinine into a molecule.

In 1820, a pair of French scientists, Pelletier and Caventou, isolated an alkaloid from quinine powder whose action showed unmistakable antimalarial potential [12]. The alkaloid was named quinine and, through various methods, it began to be extracted from the plant and commercialized. Always permeated by disputes and controversies, the process of determining the molecular formula of quinine ($C_{20}H_{24}N_2O_2$) and, later, the synthesis of chloroquine, took several more years. Like the history of other medications, the experiments conducted during the phase of chloroquine development involved people in extreme vulnerability. Patients in psychiatric institutions were tested using a procedure called “malarotherapy”, created by Austrian doctor Wagner von Jauregg [18], as well as incarcerated individuals in prisons in Australia and farm workers in Peru who served as test subjects for chloroquine and its variants, such as hydroxychloroquine, whose highly toxic side effects were still unknown [19].

Quickly, the extraction and production for the European market became so profitable that the Peruvian government prohibited the export of *cinchona* seeds in order to maintain control over the global market. The extraction and trade of the plant became so valuable that the English and Germans established plantations on the island of Java and in Sri Lanka thanks to smuggled seeds. However, the species cultivated by the Europeans had a low percentage of quinine, which kept the extraction of the *cinchona* tree in Loja going for many years. The strong demand from the market and the Peruvian monopoly on the extraction of the plant produced wealth and paved the way for a phase of predatory extraction, which nearly drove the native species to extinction.

The political importance of quinine is so great that it is featured on the coat of arms of the national flag of Peru. It was only in the second decade of the 20th century that control of the global quinine market passed into the hands of the Germans, who at that point had managed to surpass Latin American production. The outbreak of World War II led to an exponential increase in demand for the plant, an essential instrument for military advancement in regions of Africa and Asia where malaria was endemic. The Indonesian plantations on the island of Java, controlled by Japan, could no longer supply the Allied countries, and the need to synthesize an alkaloid became a strategic priority.

Almost 500 years of controversies marked the colonial and extractive cycle around *cinchona*: religious disputes, the appropriation of Indigenous knowledge, seed smuggling, taxonomic frauds and errors, the development of medicines for malaria (one of the deadliest diseases in history), the establishment of plantations in Asia and its predatory exploitation across different parts of South America, the partition of tropical Africa by European powers, the rise of the chemical dye industry, and Nazi pharmaceutical ventures. In short, it was defined by the creation of instruments for the exploitation of bodies and territories.

If this can be understood as a form of extractivism, it is not only because a plant, removed from its native habitat and processed, is transformed into an extractable resource to be sold as a commodity. Rather, it constitutes an extractive project whose planning and execution define the terms by which a plant's agency is reduced solely to its materiality, properties, and components. "Relational extractivism" is therefore part of a process that prepares the ground for commodification, a procedure that is simultaneously technical, epistemic, and ontological. In doing so, it disrupts the socio-ecological context in which a plant is embedded and legitimizes a chain of exploitation that colonizes territories, appropriating both human and non-human beings as well as their knowledge.

Extractivism is a concept that describes economic activities based on the removal and appropriation of natural resources from a territory, generally through practices with major socio-environmental impacts, with the aim of converting them into commodities or inputs for productive processes and capital accumulation to the benefit of agents external to local communities. Extraction and displacement are complementary actions within this productive logic, commonly applied to mining, the oil and coal industries, logging, and other forest-based industries. Metals, coal, oil, timber, just to name some of the main targets of extractive actions, are removed from their territories and thus stripped of their constitutive ecological, cosmological, and social relations in order to be transformed into products. Moreover, extractive actions appropriate not only the elements or beings themselves but also their relations. However, the relational universe of extractive products must be obliterated for their appropriation to be effective. There would be no exploitation of quinine without the ecological and socio-cosmological knowledge of Indigenous peoples: knowledge good enough to be thought with, but not good enough to be acknowledged on equal footing with science.

Without minimizing the relevance that the expansionist logic of international markets had in the conversion of the plant world—and the associated local knowledge—into products, it is possible to review the precursors of this process through an analysis of its philosophical premises. In particular, two principles that have distorted the relationship with the plant world should be highlighted. Firstly, many of the characteristics of living beings were denied to plants; secondly, from a strongly anthropocentric standpoint, it was assumed for a long time that, as objects, plants would merely be exploitable resources, whose reproduction and use would depend on the technification and synthesis of their chemical properties, that is, their usefulness for human development.

4. History of a Devaluation: Western Philosophy

It is worth briefly examining certain moments that illustrate the history of the devaluation of plants, without seeking to judge philosophy. Here, we revisit key ideas that contributed to the subordinated status of plants within Western philosophical thought. According to the French biologist and botanist Francis Hallé, "human beings, regardless of time or place, have always preferred animals to plants" [20] (p. 17). The philosopher Georges Canguilhem writes in the preface to François Delaporte's book, *Le second règne de la nature* [21] (p. 7), that "vegetating" quickly came to mean "inertia and apathy"—a meaning that was not its original one—suggesting or thereby conveying an unflattering image of plants. Aristotle regarded the plant as "a being endowed with a 'nutritive' soul, but not a sensitive one, leading a purely metabolic life, placing it, according to a hierarchy of beings, just above the mineral."⁷ For Thomas Aquinas, even the most brutish animals are nobler than plants (apud [22], c. xii). Even though distant, one can find the same attitude of disdain towards plants in Heidegger, who contributes to this silencing, or even exclusion, when he states that plants are even more "poor in world" (*weltarm*) than animals [23].

In a different context, Buffon, in the second volume of his *“Histoire Naturelle”* [24], opposes the Linnaean system of classification⁸, which assigns ontological value to taxonomic categories (species, genus, order, etc.) in such a way as to reflect the very order of nature. The author states

[...] there is no absolute and essential distinction between the animal and vegetable kingdoms; but that Nature proceeds by imperceptible degrees from the most perfect to the most imperfect animal, and from that to the vegetable. Hence the fresh water polypus may be regarded as the last of animals, and the first of plants. After examining the distinctions, we shall now inquire into the resemblances which take place between animals and vegetables. The power of reproduction is common to the two kingdoms, and is an analogy both universal and essential. This mutual faculty would induce us to think that animals and vegetables are beings of the same order. [...] We may, therefore, conclude, with more certainty, that animals and vegetables are beings of the same order, and that Nature passes from the one to the other by imperceptible degrees; since the properties in which they resemble each other are universal and essential, while those by which they are distinguished are limited and partial.

The discovery of the freshwater polyp quickly led to this creature being regarded “as the long-sought missing link between plants and animals” [27] (p. 232), which, in a way, reinforced the idea of an uninterrupted chain of beings and, consequently, made it more difficult to separate and classify them. Where does the plant kingdom end and the animal kingdom begin? Nevertheless, even while acknowledging that there is no absolutely essential and general difference between animals and plants, Buffon, in his admittedly anthropocentric view, insists on considering animals as occupying a higher position than plants. In *“Comparaison des Animaux et des Végétaux”*, published at the beginning of the second volume of *“Histoire naturelle”* [24], Buffon asserts the eminence of animals in nature and of humans among animals. However, he also questions the fact that the distinction between the animal and plant kingdoms is not clearly established. The ontological hierarchy, inscribed in the perspective of a “chain of beings”, is predicated on different degrees of dignity that are reflected in an epistemological order. This order depends on the number of relationships, which are understood as the links between a being and its surroundings. Consequently, there would be no absolute superiority in a supposed order of perfection of the nature of beings [26] (p. 598). In a gradation in which the number of relationships determines the value of natural beings, that is, in which it is the relationships between beings, and not their intrinsic perfection, that underpin their ordering, Buffon can affirm that “it is by the greater number of relationships that the animal is really above the vegetable and the vegetable above the mineral” (...) “the animal is, according to our perception, Nature’s most complete work, and man is its masterpiece” [24] (II, 2). Thus, Buffon seems to legitimize the following hierarchy: first man, followed by animals, plants, and finally minerals, defined by a hierarchy of relationships that qualify beings from the most to the least complete⁹.

Deprived of the capacities recognized in human and animal life forms, such as movements, plants barely appear to be alive. The traits they share with inanimate beings—namely, the absence of senses, the inability to move, and the lack of consciousness—obscure the intelligibility of their vital processes, concealing their vitality beneath an appearance of inactivity.¹⁰ In that superficial perception, plants offer us a sensitive image of death; someone in a “vegetative state” [28] (pp. 734–737)¹¹ has lost the ability to express consciousness, remains unresponsive, incapable of feeling pain or reacting to external stimuli. Thus, compared to plants, a patient in this passive condition is a living dead. Since antiquity, autonomous motion has been one of the crucial—and most imme-

diate—distinctions between animated and inanimate beings. Aristotle (cf. *De Anima*) recognized that plants display three out of four types of movement; they change their state, grow, and are subject to decay, but they do not change position in space. This immobility would mark their existence as precarious, an imperfect and incomplete expression of life.

Plant and fixity are terms that become synonymous in Western thought¹²; however, since antiquity, certain movements have been acknowledged in plants. The question is whether such movement is evidence of an action controlled by the plant itself, or merely the result of a purely mechanical and immediate process (action–reaction). One of Buffon’s definitions of sensation—which, like Descartes, he aims to explain mechanically in all animal behavior—is as follows: “if we understand by sensation only the ability to move in response to a shock or resistance, we must agree that the plant known as the sensitive plant is capable of this type of sensation, like animals.” [24] (p. 104). The *Mimosa pudica*, or sensitive plant, whose leaflets fold when stimulated by touch or heat, was already well known in Buffon’s time and aroused great interest, as it seemed to demolish the perceived boundary between animals and plants, being capable of movement and sensation—of sensitivity¹³. Many plants exhibit similar behaviors; they close their leaves at night and reopen them in the morning. Just as proponents of the animal-machine theory argued for the mechanistic nature of animal behavior, many—Buffon among them—saw the sensitive plant’s movements as merely the mechanical effect of external stimulus, thus laying the groundwork for what might be called the “plant-machine” hypothesis.

The metaphysical devaluation of plant life goes hand in hand with their extreme objectification. However, their violability is not a subject of ethical debates, as is the case for those defending animal rights and their liberation.¹⁴ More than that, it can be said that violation and exploitation (of animals or plants) occur only under the precondition of forgetting or denying the dignity of these living beings. In this context, it is pertinent to recall the contributions of the Cartesians of the 17th century and the proponents of their theories concerning animality and automatons. These theories postulated the existence of animal-machines devoid of human attributes. For example, Fontaine (Fontaine apud [32], p. 53) claims that the “lords of Port-Royal” knew and even frequently discussed the issue of animals present in Descartes’ work:

there was hardly a solitary [as the authors of Port-Royal were called] who did not speak of automatons. No one made an issue of beating a dog. They would strike it indifferently with a stick and laugh at those who pitied these beasts as if they had any sense of pain.

Thanks to the efforts of the Société Protectrice des Animaux (Society for the Prevention of Cruelty to Animals), founded in 1845, one of the first laws enacted in favor of animal protection was the Gammont Law, passed in France in 1855, which criminalized only cases of mistreatment of domestic animals in public spaces (see [33]). It is difficult to recognize similar efforts today attempting to rethink the human–plant relationship. Just as the West symbolically breaks with the idea of animal-machine with the proclamation of this law, there is a need to break with the idea of plant-machine. An example of this direction is the efforts of the Swiss government, which proposed a debate on the rights of plants.¹⁵

The instrumentalization of plants is rooted in the perception of them as absolute otherness, mundane and insignificant. Available for unlimited use and exploitation, they end up reduced to transgenic soybean monocultures, sugarcane and cereal plantations for ethanol and biodiesel production, objects of teratological experimentation in molecular biology, raw material that will be consumed by humans and animals—in short, they are stripped of themselves, subsumed to consumption through which they would meet their end. Hegel, for his part, says “The silent inner being of selfless nature attains in its fruits the stage where nature, duly self-prepared and digested, offers itself as material for the life

which has a self. In its being useful for food and drink it reaches its highest perfection" [37] (pp. 436–437). Devoid of interiority, soul, or identity, the plant is left with pure corporality to be appropriated and consumed by animals and humans.

Confronting the disregard of Western philosophy for plants requires a broader critique of its anthropocentric assumptions or the ontological exceptionality that humanity arrogates to itself. As briefly seen, the view of plants has been defined in many moments in the history of philosophy by a logic of their "metaphysical snobbery" [38] (p. 3). As Delaporte shows, in the hierarchy of the sensible, plants, silenced and excluded, were relegated to a secondary realm in relation to animals [31]. The West obstinately affirmed this exclusion through which it constitutes and recognizes itself. We could multiply examples (with some notable exceptions, such as Goethe and Rousseau). However, it is not our intention to repeat a story already well-known. It is important to highlight that the examples cited serve to indicate a persistent common place, that is, the incapacity of the West to perceive in plants anything other than an inexhaustible reservoir of resources waiting to be exploited. There is a structural homology between all of them; despite being historically distinct, each in its own way, they all leave little room for plants, and their texts are symptoms of a way of thinking.

The environmental crisis, with its increasing rates of deforestation, can be considered a related effect of thinking, and the limitation in perceiving any similarity between human life and that of plants. Or rather, it stems from a failure to relativize the privilege that humanity attributes to itself in its relationship with the world, leading to a negative judgment of the value of plants and the subordinate place they occupy in the modern version of the "chain of being". We insist on the fact that the movement to recognise the dignity of animal life is an issue that has been generating a vigorous debate with important results in terms of public policy and legislation in recent years. This phenomenon, however, does not appear to be observed in the context of plant life.

5. Vegetal Turn

Criticism of anthropocentrism and the modern division between Nature and Culture as separate domains, together with Indigenous ways of reflecting on the ontological constitution of the world, has promoted a fruitful critical tradition in Americanist anthropology. From the perspective of various Amazonian Indigenous peoples, animals, plants, and a multitude of other beings such as rivers, mountains, and waterfalls, to name a few, are subjects, meaning they are not reduced to elements inert of nature, the environment, or the landscape. As beings that integrate into social life, they are not raw materials or resources whose purpose is human use and intervention. If the position of subject is not restricted to humanity, as proposed by anthropology more than three decades ago by Philippe Descola [4] with the concept of animism and Eduardo Viveiros de Castro [5,29] with the theory of Amerindian perspectivism, non-human beings can express a human perspective, possess will, have a social life, and, in short, their agency and personhood are recognized.

In this sense, agricultural practices, animal husbandry, and landscape management among Indigenous peoples are better understood and experienced as social processes, the production of kinship—relations of affiliation and nurturing, affinity, exchange, and conjugality—but also of predation and revenge [1,4,39–45]. Meanwhile, extractivist practices, industrial agriculture activities using agrochemicals, mining, oil extraction, and its numerous spills are considered attacks on beings endowed with dignity similar to that of human persons, the destruction of their dwellings and the breach of protocols of coexistence and the use of a shared space [46].

It is important to emphasize that metaphysics¹⁶, as we understand it here, is not an essential element of reality, but rather an updating of unsuspected ways of thinking or a

strategy to destabilize the analytical frameworks in circulation. As we pointed out, ontological questions are raised to solve epistemological problems. Therefore, the ontological formulation of the problem in our reflection is not conceived in substantive terms; that is, ontology is not a metaphysics of being, but a “technology of ethnographic description” ([47], ix) and also a maneuver for transforming our concepts in view of an alternative description of the world, aligned with indigenous philosophies.

However, studies initiated by perspectivism and ontological animism have focused on human–animal and human–object relationships, choosing them as the preferred areas of their research. Nevertheless, human–plant relationships have been neglected. Moreover, the significance of hunting activities for the thinking and social practices of numerous Amazonian communities unmistakably demonstrates their pertinence from both ritual and cosmological standpoints, as well as in the processes of social reproduction and in the relationship with animal otherness (see, among others, [29,48–50]). Consequently, it is unsurprising that hunting has become a central theme in research conducted in Amazonian regions, with the animal being regarded as the extra-human prototype of the ‘other’. That is to say, it is perceived as one of the most representative active entities in a universe characterised by a dense population of non-human entities each endowed with their own subjectivity. It is therefore not difficult to understand how plants seem to occupy a secondary importance in these analytical proposals, becoming a topic of lesser relevance for ethnographic research. Despite the paucity of studies focusing on the human–plant relationship, recent ethnographic work in Amazonian regions has deepened the analysis of the human socio-cultural universe by including it in a relational space shared with plant societies (see, among others, [51–55]). These works have contributed to outlining some of the central themes that can serve to explore the articulated human–plant relationship, such as preferential and kinship relationships [56–58], their relevance in mythological and symbolic discourse [59–62], the recognition of affinities in the process of ontogenetic development and couvade [42,63], and plant agency within a complex interspecific social and political universe [64,65]. This renewed interest in the plant world appears to delineate a “phytoanthropological” approach [66], which posits the value of ethnological studies on the relationships between humans and plants in contemporary Indigenous societies, and the necessity to investigate this relationship based on its functions and specificities. By this, it is meant the relational responses determined by the human–plant relationship, as well as the different typologies in which this same relationship is expressed.

The issue of the political dignity of non-humans has been gaining increasing attention in light of the threats and accelerated destruction of biodiversity, as well as the evident rise in socio-environmental risks caused by ecological, economic, and political factors, in addition to climate change. In this context, it is well known that indigenous knowledge and practices are of utmost importance to reflect on and seek conceptual alternatives for ecological transformation and sustainability. This is the case with biology, ecology, and archaeology, which have been striving to strengthen the dialogue with Indigenous knowledge and practices related to the management and cultivation of plants in order to broaden the understanding of the complex relationship between human groups, plants, and the “environment” [67–71]. However, while the focus was exclusively on the technical effectiveness of cultural domestication practices [72,73] and on the creation of anthropogenic forests [69,70] just a few years ago, the study of Indigenous theories linked to these concepts has now become crucial. By taking Indigenous philosophies seriously in their ontological otherness and, to this end, considering plants, animals, and other non-human beings as subjects, these have become central elements of scientific research and the social sciences, encouraging unprecedented ongoing empirical, theoretical, and methodological experimentation. A similar movement can be identified in philosophy, largely inspired

by what became known as the “ontological turn”, which has opened new possibilities for critiquing the conceptual field mobilized to address animality and vegetality.

In the United States and Europe, researchers frequently emphasize the novelty of their work, claiming prominence in this ontological turn [47,74]; in Latin America, plants, animals, mountains, etc., have never ceased to appear in research. In the Global North, it is the humanities, particularly philosophy and visual arts, inspired by recent biological research on topics such as plant intelligence, communication, and perception, that lead the updating of studies on animals and plants guided by theoretical debates and issues originating from Western philosophy (see [75]). There are also many researchers in the natural sciences engaged in scientific dissemination and the technological application of their research [75], but we could say that even they are not immune to the philosophical problems central to modernity (individuality, body/soul relationship, interior/exterior, political organization and democracy, intelligence and the mind problem, senses and affections).

In the history of philosophy, plants are an inconspicuous presence, often reduced to background noise, a decorative landscape whose familiarity contrasts with the “human” inability to recognize proximity, except from a utilitarian perspective. In their current efforts, these authors seek to “re-found” a philosophy in which human exceptionalism is called into question and plants appear in their existential alterity and ontological dignity. This paradigm shift repositions plants in relation to other beings and, in some cases, inverts, but does not undo, an ontological hierarchy. For example, if the animal was the model of life, now plants assert themselves as the matter of the world—a privileged viewpoint. Or, in Coccia’s terms “Plants embody the most direct and elementary connection that life can establish with the world.” [76] (p. 5). However, not infrequently, such philosophical proposals do not start from the materiality and vast diversity of these chlorophyllous beings, but from abstractions (their socio-ecological relational context) or simplified versions; hence the insistence on macro-categories like “plant” and “vegetal”. In summary, we present the arguments that structure two of the central works in this philosophical “vegetal turn”¹⁷.

Michael Marder writes in his *Plant-thinking* [77] about and in favor of vegetal otherness. Two central questions guide his book: (1) How is it possible for us to encounter plants? (2) How can we maintain and nurture, without fetishizing it, their otherness in the course of this encounter? Moving away from metaphysical philosophical approaches, Marder argues that the essence of plants is radically distinct, foreign to human categories because they do not belong to the same world, or rather, to our world; they are beings of the “between”, who exist in two worlds. Against the constraints of a capitalist agro-scientific complex, the author seeks the political emancipation of plants or a vegetal democracy through a critical approach to the Western metaphysical tradition. Marder does not discard debates centered on the theme of animality, insofar as there are ontological and ethical implications relevant for thinking about non-humans more broadly. In methodological terms, the author claims to base his work on hermeneutic phenomenology, deconstruction, and “weak thought” (in the sense of Gianni Vattimo) as paths to save vegetal singularities from abstractions and generalizations; these philosophical traditions, he suggests, form the infrastructure that allows for their encounter with plants.

Emanuele Coccia in *The life of plants* [76] argues that while the separation between humanity and animality has undergone significant philosophical revision, the same cannot be said for plants, which do not arouse the same benevolent empathy. What the philosopher calls “our animalist chauvinism” is a refusal to go beyond an animal-centered language that fails to account for vegetal truth. Coccia seeks to reframe the question of the nature of the world as a philosophical problem through an audacious proposal to re-found cosmology by exploring plant life. He proposes a worldly philosophy rooted in plants, which also shapes his speculation on “speculative autotrophy” or a “protean cosmology”. In order to

undo the pernicious legacies of modern reason, the author reconnects with thought that inspired Renaissance philosophy. As for the central problem posed in his book, it is an aesthetic one—that is, the genesis of forms and their metamorphosis conceived beyond human or animal exceptionalism¹⁸.

Coccia seeks a metaphysical understanding of the world as a fundamentally vegetal fact (phytocene); plants are the only forms of life that would have access to the world in its ancestral face, and thus, among living beings, they would be the true mediators between knowledge and the world. The only legitimate philosophy would therefore be a cosmology—first, and necessarily, vegetal. The liminality of plants, a link between the living and the inert, would correspond to the starting point of life, the place shared by all beings, insofar as it is the point of creation of the world's structure as a resolution of the asymmetry between container and content, or world and beings, since vegetal life is in reciprocal imbrication with the world through its mixing with the atmosphere (and, consequently, with all beings). This implies a different metaphysical understanding of the world as a vegetal fact whose origin is inseparable from its cosmogonic mode of existence. For this reason, the author summarizes the aim of his book as being “to reopen the question of the world by starting with the life of plants” [76] (p. 17).

Although the works aligned with the vegetal turn offer new analytical paths for central philosophical questions and adopt a critical stance toward speciesism, the material and affective engagement with plants remains secondary to these reflections, and the characteristic diversity of these beings—and more importantly, the multispecies relational contexts that produce them—ends up in their shadow. Seen from the Amazon, the vegetal turn should be that of the peoples of megadiversity, who produce biodiversity intertwined with sociodiversity, in which forest gardens do not contain just, for example, “manioc” (*Manihot esculenta*), but an enormous variety of maniocs, always in the plural, whose differences are both botanical and sociocosmological. The biodiversity cultivated by Amazonian peoples does not fit within the philosophers' vegetal label.

6. Plant Subjects: The Case of Matico

The ethnographic case¹⁹ we will analyze to conclude our argument concerns the use of *matico* by the Shipibo collective that bears the name of this plant, during the COVID-19 pandemic. The Comando Matico was founded in May 2020 in Yarinacocha, a district of the city of Pucallpa (Ucayali Region, Peruvian Amazon), on the initiative of a collective composed of artists, communicators, and Indigenous activists from the Shipibo-Konibo people who, during the first months of the pandemic, self-organized to send leaves of the *matico* or *cordoncillo* plant (*Piper aduncum*) to friends and family living in the Cantagallo neighborhood of Lima (Peru). Created by a group of Shipibo families who migrated from the Ucayali region and later settled on the banks of the Rímac River, this Indigenous community—located not far from Lima's historic center²⁰—was one of the first places in the capital to report COVID-19 cases.

Many of the conflicts and difficulties faced—and still experienced—by Indigenous families in Cantagallo were exacerbated as the Peruvian government implemented exceptionally strict measures during the lockdown imposed in response to the pandemic.

Far from their home communities, with no space for cultivation or medicinal gardens, the Indigenous population of Cantagallo—as well as that of other urban centers—found themselves doubly isolated, without state support to care for those who fell ill and without the kinship networks that ensure traditional care through the use of plants and shamanic intervention.

It was within the framework of this emergency, and in dialogue with Shipibo families in Lima, that the first nucleus of the Comando Matico was formed. Its name openly presents

both a critique of the biosecurity protocols and pharmacological therapies promoted by the “COVID Command”—the state body responsible for coordinating the official measures implemented to address the pandemic in Peru—and a denunciation of the absence of effective health policies for attending to the Indigenous population [81]²¹.

If, at first, the collective emerged in response to the increase in COVID cases and, therefore, as a self-managed initiative to care for the sick and provide support to their families [84], by the end of 2021, the group’s actions also focused on rescuing the use of plants and local therapeutic practices, in order to strengthen the transmission of this knowledge in the Shipibo communities of the Ucayali Region and the peri-urban area of Pucallpa, and to promote their inclusion in regional health protocols.

The plant that gives the collective its name, *matico*, played a central role in the reconstruction of care ties that reconnect the city and the communities through vegetal agency. Unlike the European “discovery myths”, here it is *matico* that reveals itself to humans, showing them a new therapeutic and resistance horizon. Thus, the Shipibo myth of re-discovery unravels the version of botanical history according to which a Spanish soldier named Matico had discovered the plant by applying its leaves to his wounds to stop a hemorrhage. *Matico*, or “soldier’s herb”, unfolds into different extra-botanical attributes, showing that “plant” is not limited to a biological entity. After all, for them to be effective, they must be combined with other procedures, diets, and care practices. Furthermore, *matico* reveals its complex identity as the healing depends on communication with the human aspect of this being.

Among the Shipibo-Konibo population in the urban and peri-urban area of Pucallpa, its name and medicinal use had been forgotten for many years. *Matico* grew as a weed throughout the Amazonian city of Pucallpa. Two types of *matico* are known. The first has soft leaves and is used medicinally. The second, on the other hand, has spongy leaves and is known as the “love *matico*”; its taste is bitter and its use is intended for preparing love potions, but also to ensure good family relationships. The plant was present, yet invisible. To say that it was rediscovered by the members of Comando Matico is a way of reporting that the plant allowed itself to be found at a time of extreme vulnerability for the indigenous population, neglected by the state in the urban context. This reunion, during the health crisis, is told as an “awakening” or sudden appearance in the words of Néstor Paiva, co-founder of the collective: “it has just arrived!”. Reconstruction and reappropriation of an indigenous medicine, *matico*, required new forms of learning and experimentation in times of uncertainty. The alliance between *matico* and the Shipibo-Konibo is a political act of autonomy and resistance to the biomedical imposition of foreign conceptions of illness and healing that are disconnected from Indigenous ways of life.

The origin or causes of illnesses are not reduced to a simple sequence of biological events; sometimes, they come in dreams, approaching like a dark monster. It is with the Shipibo term *yoshin* that the patients treated by the activists of the Comando Matico describe the illness of COVID-19. Most of the *yoshin* entities have anthropomorphic traits and possess malevolent powers capable of making the living sick, who can only restore their health by expelling the harmful “airs” (*jakoma niwebo*) of these damaging entities from the sick person’s body [85] (p. 198).

After starting to self-medicate with a *matico* preparation, it was with the first patient treated by the collective that Jorge Soria, its current coordinator, saw in a dream the human form of *matico* revealing its therapeutic agency. With the appearance of tiny men, the plant spirits wore white coats like those of doctors, and as a team, they gathered to diagnose and treat the patient. It is important to note that the effects produced by encounters with the *yoshin* of medicinal and hallucinogenic plants, and more generally, of all plants capable of influencing or modifying people’s behavior, generically identified with the term in Shipibo

rao, are similar to those produced through diets (*sama*). *Sama* are ritual practices of a disciplinary nature, during which preparations (decoctions or macerates) of the same plant are consumed for many weeks in a row, accompanying and preceding shamanic initiation. Diets allow one to seek, feel, and maintain relationships with certain *rao* plants, combining bodily practices—ingestion, inhalation, poultices, sweating, or baths—with strict dietary, social, and sexual restrictions [86] (p. 197). The bodily discipline of the diet promotes the creation of a direct bond with *rao* plants. Therefore, “being on a diet” means learning to communicate with the plants, understanding what they demand and how they demand it [85] (p. 16). Within this relational exercise, *rao* plants are subjects with “vital principles” (*rao niwebo*), and endowed with a “master” (*ibo*) with whom the person consuming the plant strives to establish a relationship in order to incorporate and make its attributes their own. The goal of these exercises is to impregnate the body, considered the container of a wide range of ways, modes of being, affections, and abilities, with those of the *rao* plants, and thus learn how to communicate with them and be guided in dreams [87] (pp. 246–247).

The appearance of *matico* within the framework of therapeutic action is an example of how representations of illness and its treatment among traditional peoples challenge the relevance and applicability of therapeutic actions on which Western biomedicine is based. It also raises a radical questioning of the concept of “illness” and allows us to understand the role that plants play in these healing systems. From a Western perspective, illness is the result of an abnormality in the functioning or structure of a particular organ or system, whose signs (symptoms) inform about this anomaly or dysfunction. By recognizing the same functioning for all bodies, it also suggests that the course of an illness, and, similarly, its healing processes, do not vary according to the context or specificities of the sick person. Therefore, as an organic or biophysiological anomaly that affects the functioning of similar bodies, the cure for an illness is also reduced to the induction of an organic response through the administration of certain biochemical compounds or the mechanical application of specific protocols. However, what the case of *matico* teaches us, in contrast to Western therapeutic understanding, is that the plant does not heal solely by the action of its active principles; that is, it is not enough to administer the plant without restoring the sociocosmological bonds that constitute a person through dream care, the use of shamanic songs, tobacco fumigation, steam baths, massages, and specific diets for each patient and for the one administering the treatment.

7. Conclusions

One of the defining characteristics of plant extractive activities is the reduction of sociality with these non-human beings to an anonymous and placeless form of knowledge. In this regard, the case of *cinchona* is emblematic for understanding how this specific form of exploitation is defined. The history that accompanies the extraction and commercialization of *cinchona* illustrates not only how a plant, through a form of relational extractivism, is removed from its native environment and processed until it becomes a commodity, but also how the West—with few exceptions—has persistently cultivated an incapacity to perceive plants beyond the notion of an inexhaustible resource awaiting exploitation. Such a process, as we have seen, is simultaneously technical, epistemic, and ontological, generating a fragmentation of the socio-ecological relational context in which a plant is embedded. The origins of this form of exploitation, systematically applied across the vegetal world, are clearly shaped by Western philosophy and its anthropocentric assumptions. From this perspective, the current environmental crisis, as well as the rising rates of deforestation—accompanied by the expansion of agro-industrial monocultures—emerge as effects of human thought and its limitations in perceiving any continuity between human life and plant life.

By contrast, our second case study, that of *matico*, allows us to reflect on plant agency from the perspective of Amazonian peoples, showing how these beings are conceived as subjects within a highly relational universe. In this sense, plants, when not considered exclusively through a biological lens, manifest their extra-botanical capacities—an effect of their insertion within a web of eco-cosmological relations of interdependence. If *cinchona*, in its cycle of exploitation, was transformed by industry into hydroxychloroquine, in the case of the “rediscovery” of *matico*, the Shipibo reconstitute their socio-cosmological bonds through which the plant can act therapeutically, recovering its humanity.

This stands in clear opposition to processes of synthesis that, starting from biological material, generate industrial versions while simultaneously counteracting colonial mechanisms and revealing both the Indigenous origin and the human dimension without reducing them to commodities. What Indigenous perspectives demonstrate is that it is not enough to think of plants solely in terms of their phytochemical or morphological characteristics, stripped of the relations that constitute them. Through shamanism and artistic expression, the Comando Matico seeks to make explicit the extra-botanical capacities of plants, the symbiotic networks that sustain them, and to show how the work of healing is an eco-cosmological task of reorganizing relations mediated by plants.

In sum, vegetal agency cannot be reduced to a plant’s active principles; to be effective, it must operate in conjunction with its sonic and imaginal dimensions—its language and its songs. The protocol developed by the collective—a therapeutic procedure that emphasizes non-human modes of participation in the development of public health interventions—arose from the premise that COVID-19 was not only a biological condition but also a relational one²². When not appropriated by botany and transformed into synthetic alkaloids by industry, plants act within their eco-cosmological networks and express their capacity for interlocution. Within this movement of translation, misunderstanding, and appropriation, plants re-emerge as protagonists; far from being reduced to passive botanical representations devoid of meaning, they can listen, sing, and dream.

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Notes

- ¹ The definition of the concept of “multinaturalism” is effectively explained by E. Viveiros de Castro [6] as follows: “Cultural relativism, a type of multiculturalism, supposes a diversity of subjective and partial representations, each striving to grasp an external and unified nature, which remains perfectly indifferent to those representations. Amerindians propose the opposite: a representational or phenomenological unity which is purely pronominal, indifferently applied to real diversity. One single ‘culture’, multiple ‘natures’; constant epistemology, variable ontology—perspectivism is multinaturalist, for a perspective is not a representation” (pp. 53–54).

- 2 Descola's exercise of "structural ontology" is based on a "hypothetical invariant", that is, the relationship of continuity or discontinuity in the plane of physicality and interiority between the self and the other, and deepens the analysis of the four possible combinations: naturalism, totemism, analogism, and animism. The term "interiority" is employed to denote the concept of internal characteristics or properties that are associated with the soul or consciousness, including such attributes as reflexivity, emotions, and the capacity for dreaming. Additionally, the term is also used to denote physical conditions, such as the breath of life and vital energy. In contrast, the term "physicality" is employed to denote the external form, which is not confined to the materiality of the body but also encompasses physiological processes, perceptual capacities, temperament, bodily fluids, and diets, among others [8] (p. 116).
- 3 An initial elaboration of this concept was published in the Vegetalidades issue of the Brazilian journal Piseograma. The journal functions as an editorial platform dedicated to "catalyzing urgent ideas" and fostering alliances among diverse collectives. We express our gratitude to the editors, particularly Wellington Cançado and Renata Marquez, for their insightful dialogue.
- 4 Due to the enormous importance that *cinchona* bark had in the development of botany, chemistry, and modern medicine in the West, as well as in the economic history of relations between Europe and the Americas, it is impossible to account for the immense literature available here. However, [12,13] can serve as a guide to reconstruct the colonial history of its extraction and commercialization in Europe between the 1600s and 1700s.
- 5 From a decolonial perspective, some botanists seek, through various methodological and political strategies, to reclaim the importance of local ecological knowledge and Indigenous contributions. This is the case of the story of Manuel Mamani, a *cascarillero* guide for Charles Ledger, who was responsible for finding the *cinchona* varieties with the highest quinine content. In *Hunting Lost Plants in Botanical Collections* (2022), botanist Natly Allasi Canales, a specialist in this plant genus, writes a fictional diary of Mamani, highlighting his role in Ledger's endeavor (available online: <https://wellcomecollection.org/stories/hunting-lost-plants-in-botanical-collections>, accessed on 7 October 2025).
- 6 By renaming the plant world with its colonial gaze, botany creates, as shown by artist Giselle Beiguelman, scientific and common names that can express misogynistic, racist, and anti-Semitic prejudices. Modern taxonomies thus preserve colonial and scientific racism. Classifying and naming can be acts of domination and control. *Tradescantia zebrina*, a common ornamental plant, is colloquially known in Portuguese as 'Judeu errante' (a figure recurring in anti-Semitic propaganda during Nazism), or the fungus *Auricularia auricula-judae*, literally 'Judas's ear,' are some of the species present in the exhibition *Botannica Tirannica*, Jewish Museum of São Paulo, Brazil (2022) by Beiguelman, which reveal the discriminatory commitment of taxonomy as a science that imposes a certain way of ordering the world, normalizing it and subtracting its diversity.
- 7 By soul, one must understand here the principle of life, not a spiritual principle.
- 8 Regarding the controversy between Buffon and Linnaeus, for whom classification reflected the natural order and divine creation, [25] (p. 11) writes: "For Linnaeus the naming and ordering of the products of Creation linked the study of nature with the worship of God. Linnaeus's conception of order reflected his vision of Creation as a balanced and harmonious system. Classification, he thought, could reflect that harmony. In his later writings Linnaeus also described a general balance of nature. Every plant and animal fills a particular place in the network of life and helps maintain that network.". With regard to Linnaeus' classification system being considered a reflection of the inherent order of nature itself and divine creation, he states that "La Méthode, âme de la science, désigne à première vue n'importe quel corps de la nature, de telle sorte que ce corps énonce le nom qui lui est propre, et que ce nom rappelle toutes les connaissances qui ont pu être acquises, au cours des temps, sur le corps ainsi nommé: si bien que dans l'extrême confusion aparente des choses se découvre l'ordre souverain de la Nature/The Method, the soul of science, at first glance refers to any body in nature, such that this body states its proper name, and this name recalls all the knowledge that has been acquired over time about the body thus named: so that in the apparent extreme confusion of things, the supreme order of Nature is revealed (English translation by the authors)." (Linnaeus, C. *Sistema naturae* (ed. 1766-67, t. 1, p. 13 apud [26], p. 189).
- 9 It is possible to propose a further development of Buffon's arguments. In this, the fundamental distinction would not be between animals and plants, between which the similarities are greater than the differences, but between organised, living matter and minerals, inert matter. See [26] (pp. 611–612).
- 10 On the precariousness of plant life, see Nealon [22] (pp. 14–27).
- 11 The authors propose the expression "vegetative state" as the most appropriate to characterize patients who have suffered brain damage and remain in a coma. They refer to the Oxford English Dictionary, which defines vegetate as "to live a merely physical life, devoid of intellectual activity or social intercourse", and vegetative as used to describe "an organic body capable of growth and development but devoid of sensation and thought". This condition can likewise be described as a vegetative mindless state.
- 12 What seems to contrast with the metaphor of the "wild soul" as shapeless/inconstant myrtle is that of the "Western soul" as stony, figured in marble, according to the text by Viveiros de Castro (cf. [29], pp. 183–264).
- 13 See "Le herbier des philosophes" [30] (p. 197).
- 14 For a distinct philosophical approach to the place of plants in thought, see "A filosofia das plantas (ou pensamento vegetal)" by Andrzej Marzec [31], available at <http://chaodafeira.com>, accessed on 7 October 2025.

- 15 See the document “The dignity of living beings with regard to plant: moral consideration of plants for their own sake” [34]. Regarding the same topic of plant rights, there is the classic 1972 essay by Christopher Stone, “Should Trees Have Standing? Toward Legal Rights for Natural Objects” [35]. Some chapters of the book *Plants as Persons* by Matthew Hall [36] develop important aspects in the debate.
- 16 It is important to clarify, in broad terms, the meanings attributed to the notions of “ontology” and “metaphysics” in this text; clearly, with this, we do not intend to redo their philosophical trajectories, which coincide with that of Western philosophy itself. The adoption (or smuggling) of these concepts follows the emphasis of different works in recent years, prioritizing native theories in their own modes of description and analysis, and coming together in a movement of “ontological turn”. In this sense, the pair ontology/metaphysics does not refer to a substantive level or a field of fundamental phenomena of reality with categories belonging to the domain of Being. Here, it is not about reviewing the “furniture” of the world, but its exact opposite, that is, the twisting of the common philosophical meaning to reject the axiomatic commitment of closing a description of the world; thus, the questions are formulated in terms of ontology and metaphysics, but the ethnographically informed answers will never be ontological or metaphysical. Therefore, the grammatical functions of these concepts vary, and they may be adjectives or adverbs, but not nouns. Perhaps this is a strategy aimed at keeping the horizon of reality always open to speculation and doubt, thus aligned with the style of reflection of the peoples with whom we work.
- 17 For the sake of brevity, we limit the review to these two references, although there are many other relevant works for this reflection, such as “*Plants as Persons*” by Matthew Hall [36], “*Plant Theory*” by Jeffrey Nealon [22], and “*The Mind of Plants*” [38] by Monica Gagliano, John Ryan, and Patricia Vieira, among many others. A more exhaustive review of the vegetal turn in the humanities will be left for another occasion.
- 18 A pertinent critique of Coccia’s work (and Mancuso’s, though it could be extended to other authors) is offered by anthropologist Joana Cabral de Oliveira, a key reference in studies of agrobiodiversity among Indigenous peoples of the South American Lowlands: “With a heroic and salvationist posture, both authors approach (desperately) the plants in order to place them at the center of the debate and, thus, assign to them a single and definitive solution to all problems. If, on the one hand, this strategy draws our attention to a way of life that had previously been neglected, on the other, it operates with a reductionism identical to the human-animal model” [78] (p. 19).
- 19 The result of field research carried out by the authors in 2023 and 2024 with members of the Comando Matico (Matico Command), Shipibo artists, and leaders from various communities in Yarinacocha and its surroundings. In 2023, the research was conducted within the context of an artistic-anthropological residency, which resulted in the short film “*Bakish Rao: Plants in Struggle*”, featuring the participation of Jorge Soria, Mery Fasabi, Roxana Davila, Wihntner FaGo, Nestor Paiva, Denilson Baniwa, Renato Sztutman, Emanuele Fabiano, Karen Shiratori, and Jamille Pinheiro Dias. In 2024, as a continuation, further research was carried out with artists and leaders from other Shipibo communities in the region, focusing on their relationships with plants—whether monocultures or those used in shamanic and therapeutic practices.
- 20 Over the years, Cantagallo has become an important national and international center for the dissemination of Indigenous art and music, the revitalization of the Shipibo-Konibo language, and the promotion of intercultural bilingual education projects within Lima’s urban context [79]. Although it is not the only urban Shipibo community, if negotiations were to lead to its official recognition as an Indigenous community, Cantagallo would become the first such community outside the Amazon [80] (pp. 54–65).
- 21 The actions of the Command during the health emergency are just one of the many responses that Indigenous communities and local organizations undertook to face the emergency. All of them mobilized native practices and epistemologies that were kept alongside Western health measures in a display of resilience and cultural pride [82] (p. 598). An analysis of the initiatives undertaken by Indigenous communities from different regions of the Peruvian Amazon to confront the COVID-19 pandemic exceeds the scope of our article. For more information on the COVID-19 pandemic and Indigenous experiences with epidemics in the Peruvian Amazon, see, among others, [83].
- 22 For a discussion of the notion of “relational protocol” as a way of emphasizing non-human modes of participation in lawmaking in situated worlds, see [88].

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