

# The Revolution Will Launch in the Garden: Politics of representation and vegetal intellig(senti)ence

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Paul Rosero Contreras

Universidad San Francisco de Quito - Dlab, Dos Islas Estudio Quito, Ecuador  
proseroc@usfq.edu.ec

## Abstract

This paper describes entanglements between human and non-human actants from the perspective of creativity, interdependence and contemporary anthropology. Drawing from experiments on self-representation and swaps from object to subject of study, the author reflects on the potential of the vegetal world and distinct forms of intelligence to propose a subversive anti-anthropocentric view in a planet terraformed by plants and other beings.

## Keywords

Non-human creativity, reciprocity, vegetal imaginary, reciprocal gaze, more-than-human representation.

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A living species is a creative species, shaping its own environment to make it habitable and functional. The first living organisms completely altered the planet in the Great Oxidation Event. Plants have transformed Earth in such a way that made the planet livable and breathable for other living beings. In this revolution, plants not only create images, but they themselves are images. Biology allows us to understand creation as the result of a more-than-human cognitive process; a neurobiology of plants that regards them as sentient beings in an interdependent relationship with their environment, capable of learning and responding, constructing an imaginary of possibilities.

Drawn to this idea of plants as creative beings, I have been developing a project *El Pensamiento de las Plantas* [The Thinking of Plants] that speculatively imagines the visual representation of plants from the perspective of one's self. This photographic series is influenced by Indigenous Epistemologies, biological concepts, and contemporary anthropological postulations like those of Canadian anthropologist Natasha Myers. Her idea of Planthropocene activates a radical political potential by asserting that humans are not alone on this planet, and that Anthropos are not the only ones capable of constructing habitable worlds. The Planthropos brings us to the Planthropocene: part plant and part human, it embodies the involuntary interdependence of plants and animals that is committed to collective prosperity. Unlike the Anthropocene, the Planthropocene is not a geological epoch, but rather a "scene" or episteme: a way of understanding life.<sup>1</sup>

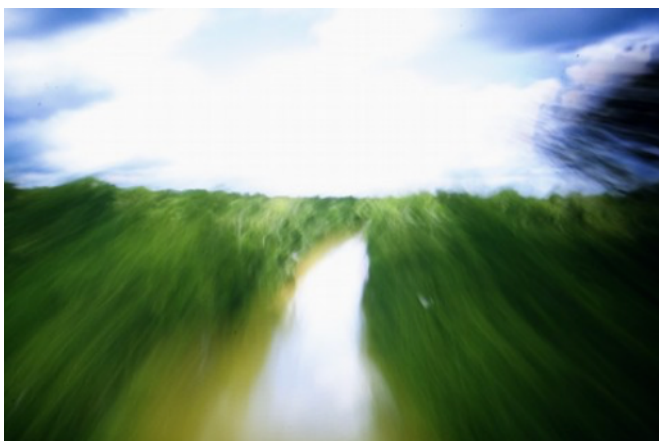


Figure 1. Paul Rosero Contreras. *El Pensamiento de las Plantas*. Volar #2. Fotografía, 2019.

This perceptual process involves "planting" our own senses to develop an appreciation for the expressive and curious manners of vegetal life. In the 1970s experimental art scene of the U.S. post-war avant-garde, artists and scientists explored this idea in what

would later be called bio-sensing art. This exploration combined the nascent fields of electrobiology, cybernetics, and the ecologies of information systems. Artists, like the North American Richard Lowenberg, meticulously investigated the intellectual and multisensory properties that connect humans to other life forms.<sup>2</sup> From orcas to tropical plants, these studies encompassed ideas around interspecies collaboration, nonhuman agency, and the advent of artificial intelligence. However, despite the fact that these plant explorations were sowed in open transdisciplinary collaboration—and have broadened our understanding of the touch, smells, colors, textures, and shapes of the world we inhabit—the ontology in which this practice was fundamentally rooted still measured the cognitive and sentient capabilities of plants in molecular and chemical terms; in other words, it was reliant on a rationally descriptive perspective. On other occasions, the experiments were transformed into performances that sought out hallucinogenic experiences through interspecies communication in real time.<sup>4</sup>

My own project acknowledges this legacy, but I try to broaden the worldview by incorporating fundamental concepts from indigenous epistemologies that show us how our own aesthetics and sensorial practices are intertwined with vegetal life, to the extent that thoughts, feelings, and the production of an imaginary all function symbiotically. This type of practice in becoming vegetal necessitates a "plant intelligence," entering what Natasha Myers terms "vegetal sentience": a broader (mind)space activated, not only by new forms of thinking about our relationships to plants, but also by their perception of the world and how they make sense of it. Thus, I do not limit myself to assumptions about intelligence and its associated indicators, nor to an idea of multispecies interconnectedness that is mediated by human technology.

In truth, this so-called "vegetal sentience" is a concept that has been recognized by indigenous communities around the world for millennia. For instance, from the Andes to North America, it is observed that the relationship of indigenous peoples to the natural environment has always been understood beyond dichotomies: it is a dynamic flow and constant interdependence where the act of giving thanks and requesting permission from the earth form a chain of manifested reciprocity. In this vein, Robin Wall Kimmerer—ecologist and enrolled member of the Citizen Potawatomi Nation—speaks of mosses as an act of life in and of themselves, bringing services to the species with whom they interact, with the moss-tree relationship being one of the oldest and ripest in history. Given this

context, I believe that it is necessary to foster a movement away from the notion of thinking and towards one of feeling.

## What is thinking?

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If we define intelligence as the capacity to solve problems, then plants and animals alike share this ability. Hence, in *El Pensamiento de las Plantas*, thinking is understood as a collective act in creating interspecies images that explore the limits of language. This project is a visual response to a moment in the past, or to an exterior stimulus beyond the human subject that experiences and captures an image. Rooting this process in a collective act with the forest is a way of addressing the problem of politicized representation of nonhuman beings, and moving towards a strategy for self-representation. The blurry images constitute intuitive thoughts, or perhaps ephemeral translations, that are closer to the feeling of liberation rather than a logical, neoliberal interpretation.

Historically, the natural world—understood as landscape in Western art history—has been regarded as an object, a representation mediated by retinal perception. In the twentieth century, we witnessed the advent of certain avant-garde movements that took the natural world beyond its representational state, but the canon remained unbroken. Hitherto, nature as object had been filtered through the human body—almost always male and white—and made an image from the perspective of *Anthropos*. It seems that posthumanism, the humanities, and the arts still face the challenge of shifting Eurocentric attention towards other forms of *Planthropocenes*. Nevertheless, there are cases of indigenous artists, rural dwellers, and activists who work in social justice, both within and outside of official institutions, who recover ancestral lands in concrete ways.

In *El Pensamiento de las Plantas*, I try to go beyond the Western tradition, acknowledging the environment not as an object, but as a subject: one that is not only unto one's self, but also among an ecology of selves. This idea is enriched by the proposition put forth by anthropologist Eduardo Kohn in his book *How Forests Think*; after four years of experiential research with the Quechua-speaking *Ávila Runa*, in the Upper Amazon of Ecuador, Kohn proposes an anthropology that goes beyond the human. The book's central premise is developed around the notion of what constitutes selfhood. Kohn equates individuality with thinking, in the sense that if something or someone—a broad category

that goes beyond humans—experiences intent, purpose, function, or meaning, then that something or someone is alive or “enchanted.” Therefore, a forest is alive and thinking, just as a dog, a jaguar, a skunk pig, or a plant are all alive and thinking.



Figure 2. Paul Rosero Contreras. *El Pensamiento de las Plantas*. Caer. Fotografía, 2019.

Kohn elaborates on this discussion around individuality by explaining that life is a process of signs through which, citing scientist and philosopher Charles Peirce, any living being is “something which stands to somebody for something in some respect or capacity.”<sup>5</sup> As such, animals, plants, and spirits should be understood as beings-unto-their-selves, co-defining what is human as part of a larger planetary dynamic.

Kohn suggests that there are many different types of selves, from the “skin-bound organism” to one that is distributed across many bodies,<sup>6</sup> like a group of people or an ant colony. To understand this concept, he says, one must first provincialize language, to challenge social theory which conflates the idea of representation with human language. The latter depends on a symbolic representation based on conventional—or “arbitrary”—signs that are embedded with other such signs that constitute an entire representational system. These fixed signs are contextualized and made to relate to the object they reference, and because this is how signs work in language, we assume that all representational processes exhibit these same associated linguistic properties. But the symbolic representation of forms is different from the human representation of forms: it goes beyond what is represented by humanity. It is knowledge outside of the human, existing a priori on the planet, continually emerging and changing. And in this manner, the forest and the nonhuman world think, Kohn concludes.

From an altogether different point of reference, the Italian plant neurobiologist Stefano Mancuso—considered to be one of the founders of the field—reaches the same conclusion. Mancuso makes a case for the existence of plant intelligence based on sensitivity: a capacity to learn and retain memory that enables plants to continuously monitor chemical-physical parameters, thus allowing them to understand and respond to their environment. Therefore, forests are their own selves because they communicate, feel, represent, and modify: they not only make possible but also host the future.<sup>7</sup> Forests contain both the human representation of forms, and the preexisting representation of a being in one's self.

Thinking is also a part of memory. If we did not have memory, would we even think? In the case of humans, our brains and bodies are instruments wherein memory resides. But memory is also transcorporeal and collective, as is thought. A thought is a response to that memory. A reflection is a brief recollection. The leaves of *Mimosa pudica*—or sensitive plant—clench instantly in a remembered moment. Could it be that in their memories, we humans are their predator? Or are they simply telling us not to touch them by retreating?



Figure 3. Paul Rosero Contreras. El Pensamiento de las Plantas. Caer #2. Fotografía, 2019.1

Mind and cognition seem to be defined by their very incorporation into the world—through simple sensory-motor acts—in an endless and interspecies interaction of sensations: a coevolution and co-definition of what I am on the inside, with what lies outside that defines me. This is a type of planthropocenic phenomenology that resonates with the ideas of philosopher Maurice Merleau-Ponty, since we must understand that the idea of humanity cannot be based on binary opposition to animals or subhumans or the more-than-human. But then, what do we do with this knowledge of a plant's sentience? What happens when we acknowledge the

fact that we are surrounded by nonhuman sentient beings and we start to live as if plants were our mentors, granting them the respect they deserve?

In my case, I proceed with projects like the one described in this text. From the political perspective of a nation-state, it could be a recognition of the Rights of Nature, like the one that was surprisingly included in the 2008 Constitution of the Republic of Ecuador, which made this country the first in the world to grant this legal status to nature.<sup>7</sup> However, since then we have come to question if these rights really are a transcendent innovation, or if they are mere legal rhetoric, or even just a political project within a world that is dictated by extractivist capitalism. What is clear is that a decolonial and antiracist analysis of the nonhuman is imperative in thinking about interspecies politics beyond the theatre of representing diversity that is typical of demagoguery.

Seen from another perspective, the changes that occur upon noticing the sentience and intelligence of other species reveal an attentiveness towards simple organisms as a means to understanding complex behaviors. For example, the same *Mimosa pudica* that reacts by touch, or a fly that has existed for thousands of years, which knows how to avoid hitting walls and feels the parameters of the room in which it flies, is in one's self because this knowledge is self-sustaining, developed within its own epistemological world. These actions that seem like simple behavior are ones that took humans hundreds of years to replicate.

## Memory of water

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El Pensamiento de las Plantas is also a series about memory retained in a vegetal body that, like the human, is largely comprised of water: a liquid memory that overflows, becoming transcorporeal. Vegetal bodies, human bodies, animal bodies: vessels of water that also provide life at the same time. A tree as a water vessel is a being in one's self, existing beyond us, and yet whose existence constructs us. Humans are dependent on plants. In the ebb and flow of natureculture, as Donna Haraway puts it, I am also a being in one's self, whose thoughts manifest themselves. In the name of alliance, discrepancy is permitted. My own thinking and memory can provide an answer, as one representation—and representative—in the world, distinct from the response of another nonhuman body. In addition, my project is embedded in a factual story<sup>9</sup> as a way to speculate a response derived simultaneously from the notions of both reciprocity and difference. This story recounts the

tragic death of German documentary filmmaker Dieter Plage, who fell from a hot air balloon while filming a movie about the Sumatran rainforest canopy in 1993.

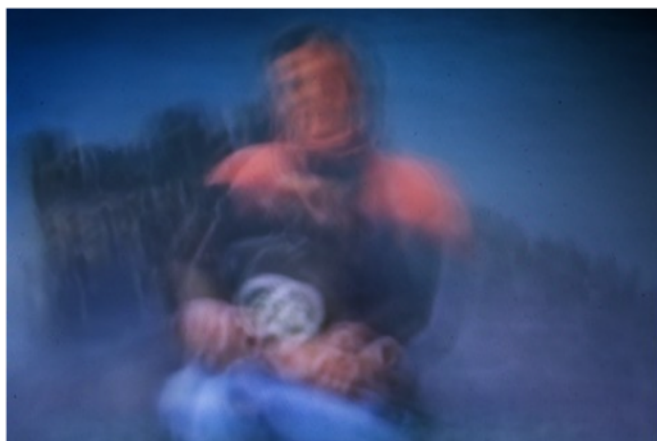


Figure 4. Paul Rosero Contreras. *El Pensamiento de las Plantas*. Devolución de la mirada (el objeto de estudio mira al estudiante). Fotografía, 2019.

Since he began his career in the late 1950s, Dieter Plage became one of the most recognized nature cinematographers and documentary filmmakers. To him we owe the unforgettable and dramatic recordings of humans interacting directly with wild animals in Africa, as well as other films about terrestrial and marine species that were widely broadcast on television networks in Europe and the United States. Plage, like the German naturalist Alexander von Humboldt in the 18th century, understood that the rainforest canopy was still an unexplored aerial world, one in which he had to reach with his camera.

In an era before the advent of commercial drones—or any other sophisticated remote-controlled flying device—Dieter Plage worked with British aeronautical engineer Graham Dorrington to build a hot air balloon that would allow him to shoot a film about the rainforest canopy, a site that was nearly inaccessible up to that point. During the filming of the documentary, sponsored by National Geographic, the balloon got entangled in a treetop. Because the balloon was made for a single passenger, Plage alone faced the dilemma of either trying to disengage the trapped aircraft and continue the flight, or to save his camera. This predicament would be his last: as he tried to disentangle himself from his cabin, Plage slipped and fell to his death. *El Pensamiento de las Plantas*, then, embodies the visual material that was kept within the water-veined bodies of trees who were eye witnesses to this tragedy: water transformed into an image.

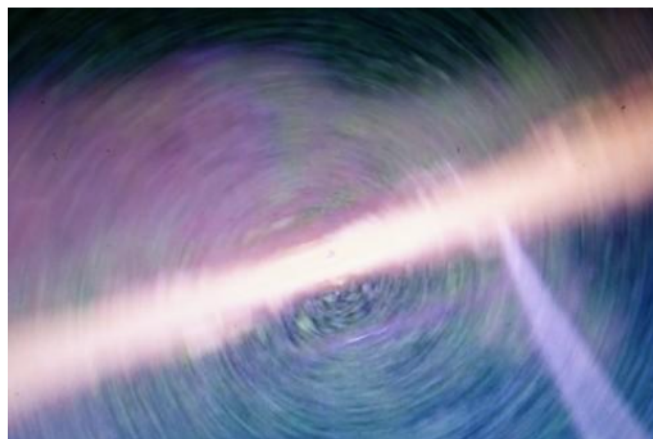


Figure 5. Paul Rosero Contreras. *El Pensamiento de las Plantas*. El momento de la caída. Fotografía, 2019.

The world, too, is made up of absences. Mimetic insects disappear altogether on leaves, camouflaged against the hampered vision of others. These insects live vis-à-vis their absence. They are, only to the extent that they disappear when faced with another's gaze, including our own. There is no sense of reciprocity. It is absence, being in one's self, that even allows for the possibility of existing. Hence, absence also creates the world.

My project includes an inflatable sculpture called *Obituary*: a scale model replica of Plage's crashed aircraft.<sup>2</sup> With it, I wanted to tell a story of death, an absence that has created a legacy, a way of seeing, and the gaze's potentiality for reciprocity. Assembling this way of seeing is connected to non-Western ethical principles, establishing an understanding of a being's embodiment in one's self that is contained within the natural world. This is a way of looking at the mind of the universe, as the scientist Francisco Varela would put it.

In 1940, Jakob von Uexküll, a German biologist who specialized in animal ethology, wrote that "a spider's web is...formed in a 'fly-like' manner, because the spider itself is 'fly-like.' To be 'fly-like' means that the body structure of the spider has taken on certain of the fly's characteristics."<sup>8</sup> A web is a physical extension of the spider—a precise and geometric representation—that allows it to capture insects so efficiently that the web resembles some mutual pact between the creatures. Being attuned to another being and penetrating its phenomenological world requires, in a sense, an ontological blurring: which part of the web is fly and which part is spider? Or, what part of the photographs in *El Pensamiento de las Plantas* is forest, and what part of them is me? The mutability of senses in this project points to how certain attempts at communication among different species can also embody another type of becoming that spills and blurs across ontological borders. In this case, between humans and plants. This

“vegetal becoming” does not negate the fact that the human body is always present behind the image. Rather, it opens up the potentiality for blurring, a place from which my project plants questions around the notion of what it means to be human, while at the same time envisioning both humans and plants as fellow astronauts.



Figure 6. Paul Rosero Contreras. *El Pensamiento de las Plantas*. Obituario. Inflatable sculpture, meteorite flakes, light filter. 2019.

In other words, we no longer need to avoid representation as if it were just a malevolent Eurocentric process of dissociation between things and words. Instead, we push for a representation that embraces true access—and an overflowing experience—to the world's richness.

## References

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2 Alice Bucknell, “The Pioneering Artist Who Harnessed Science to Communicate with Plants,” October 16, 2019, <https://www.artsy.net/article/artsy-editorial-pioneering-artist-harnesse...> [Last visited: 1/6/2022]

3 In early 2019, Zoological Society of London (ZSL) scientists installed microbial fuel cells in the Rainforest Life exhibition at the London Zoo. Their aim was to harness biological energy—made by microorganisms—that would power a device which would allow a plant to take a photograph. The ultimate goal was to power camera traps and sensors planted in nature. ZSL's Conservation Technology Specialist AI Davies explains: “Plants naturally deposit biomatter as they grow, which in turn feeds the natural bacteria present in the soil, creating energy that can be harnessed by fuel cells and used to power a wide range of vital conservation tools remotely, including sensors, monitoring platforms, and camera traps. Most power sources have limits—batteries must be replaced while solar panels rely on a source of sunlight—but plants can survive in the shade, naturally moving

position to maximise the potential of absorbing sunlight—meaning the potential for plant-powered energy is pretty much limitless.” <https://www.zsl.org/zsl-london-zoo/news/say-green-cheese>

4 Since 1974 when he founded the Bio-Arts Lab, Richard Lowenberg conducted experiments on interspecies communications with access to orcas in British Columbia, dolphins at the San Francisco aquarium, seals with Antarctic explorer Thomas Poulter of Stanford University, and later, the famous gorilla Koko.

5 Eduardo Kohn, *How Forests Think: Toward an Anthropology beyond the Human*, Berkeley, University of California Press, 2013.

6 *Ibid.*

7 Farith Simon, “Derechos de la naturaleza: ¿innovación trascendental, retórica jurídica o proyecto político?” in *Iuris Dicio*, 13(15), January– June 2013.

8 Eduardo Kohn, “How Dogs Dream: Amazonian natures and the politics of transspecies engagement” in *American Ethnologist* 34 (1) 2007, 3–24

1. Here, I allow myself to draw a parallel with Gilles Deleuze's idea of becoming: “The animal is defined not by characteristics (specific, generic, etc.) but by populations that vary from milieu to milieu or within the same milieu; movement occurs not only, or not primarily, by filiative productions but also by transversal communications between heterogeneous populations. Becoming is a rhizome, not a classificatory or genealogical tree. Becoming is certainly not imitating, or identifying with something; neither is it regressing—progressing; neither is it corresponding, establishing corresponding relations; neither is it producing, producing a filiation or producing through filiation. Becoming is a verb with a consistency all its own; it does not reduce to, or lead back to, ‘appearing,’ ‘being,’ ‘equaling,’ or ‘producing.’ Becoming concerns alliance. If evolution includes any veritable becomings, it is in the domain of symbioses that bring into play beings of totally different scales and kingdoms, with no possible filiation.”

2. Dieter Plage was a naturalist with deep understanding and sympathy for the creatures he filmed. His personal style was pioneering among nature documentary filmmakers. Instead of simply filming natural history in an orthodox way, he conceived and covered great stories about the relationships between humans and wildlife in a dramatic way that captivated viewers. His work contributed towards making humans aware of nature as a world to be worshipped and respected for the sake of their own survival. The tragedy that took his life is recounted in Werner Herzog and Graham Dorrington's documentary *The White Diamond*, filmed in Guyana in 2004.