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# The Rhythms of More-Than-Human Matter in Azucena Losana's Eco-Developed Film Series *Metarretratos*

## Abstract

This essay explores the eco-developing project *Metarretratos* by Mexican filmmaker Azucena Losana, addressing it in the context of a set of cinematic gestures concerned with the environmental impact of film. Focusing particularly on the film *Ceibo/Erythrina crista-galli*, the article argues that the series contributes to the three main axes that characterize academic debates about film and environmental concerns: a) with regard to cinematographic modes of production, b) concerning the thematization of the more-than-human and its relationships with humans and the environment, and c) with reference to the understanding of images as matter and imagination as action in the world. As part of a broader movement searching for less environmentally harmful film-developing solutions, the *Metarretratos* series has the particularity of experimenting with the chemical and curative properties of native plants from South America. Additionally, it depicts the plants/trees used in the developing recipe, foregrounding vegetal worlds as protagonists. Specifically, this paper discusses how *Ceibo/Erythrina crista-galli* engages with the healing properties of plants, drawing from indigenous knowledge systems and the philosophy of vegetal life. It explores the botanical significance of the Ceibo tree depicted in the film, as it exists in a particular soil and geography, the Plaza de Mayo in Buenos Aires, while simultaneously communicating with the spatialities and temporalities that exceed it. I suggest that what the eco-developing project reveals — reveal being the Spanish word for develop — is the very agency of both cinematic and vegetal matter in the creation of forms, images, and the world itself, exposing the inseparability of nature and technology. The cinematic dispositif that *Metarretratos* involves, we may speculate, is affected by the curative properties of the plants used; it seems to accommodate, translate, and transpose these qualities beyond itself, functioning as part of a curative mechanism of eco-traumatic aspects of landscapes.

## Keywords

Azucena Losana, cinematic matter, film-developing, rhythm, vegetal matter, ecocriticism, new materialisms, Latin American moving images, ecology, environmental humanities

## Introduction

We are sitting on a terrace facing the Douro River and one of the bridges that crosses it, connecting the cities of Vila Nova de Gaia and Oporto, Portugal. Azucena Losana, a Mexican filmmaker, was traveling through several European countries to screen her films when one of her Instagram stories showed her in Oporto, a few kilometers away from my home. I had a particular interest in her work since it was part of my research corpus, and I could not miss this opportunity to meet her, even though at the time, given the initial state of my research, I was only able to formulate broad questions about her work. Azucena quickly responded to my message, and a couple of hours later, there we were at a café in the Fontainhas neighborhood discussing her eco-developing project, one of Losana's several cinematic gestures concerned with the environmental impact of film.<sup>1)</sup>

I first became aware of the *Metarretratos* series (*Metaportraits*, 2020) through the *Eco Developing* tab on the filmmaker's website.<sup>2)</sup> It is in the context of the webpage that the encounter and experience of Losana's proposal take place, and not in other locations more commonly connected to cinema and art, such as theaters, galleries or museums.<sup>3)</sup> Under the tab *Eco Developing*, we find three tree "portraits," *Tutiá/Solanum sisymbriifolium*, *Palo Borracho/Ceiba Speciosa*, and *Ceibo/Erythrina crista-galli*, all from 2020. Each portrait includes four key components that appear simultaneously. The first element is a silent black-and-white Super 8 film of the plant used in the developing recipe. The screen is divided vertically into two equal parts, with the left part showing the negative image of the tree/flowers used in the development and the right side showing the positive image (Fig. 1). The second concerns taxonomic information about the plants used in the recipe (their common names in several languages and their medicinal properties in Amerindian cosmologies). The third component consists of a black-and-white film-developing procedure that substitutes the usual environmentally harmful chemicals with developing recipes based on South American native plants, specifically from Argentina, where the filmmaker has lived and worked over the past decade. Finally, the fourth element corresponds to colored photographs of the tree and details of its flowers and/or leaves. In some cases, botanical illustrations and photographs of the roll before being developed are included. The "Meta" in *Metarretratos* thus expresses the notion of reflection in itself since the filmed portraits are those of the vegetal matter used in the film-developing recipe, images of themselves portrayed through their own beings.

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- 1) Other gestures include workshops to construct analog projectors with discarded or found materials, although this project seems to have more to do with Do-It-Yourself procedures than with environmental concerns. This DIY approach characterizes Losana's vast and complex artistic practices. She works mainly with experimental films, installations, performances, and videos. She has also worked as a film laboratory technician at "Arcoiris Super 8," an important laboratory in the region, "the only one left after all the big laboratories in South America closed." See "Azucena Losana: Hazlo tú misma," *Mostra de Cinema Periférico*, accessed January 12, 2022, <https://bit.ly/3S8s0Br>.
  - 2) On the artist's page, the name of the project is not mentioned, appearing under the category "Eco Developing." It was during the interview I made with Losana on June 8, 2022, in Oporto, that I learned about the name of the project.
  - 3) To date, Losana's webpage has been the project's only interface.



Fig. 1. Still from *Ceibo/Erythrina crista-galli* (Azucena Losana, 2020)

In this study, I argue that the eco-developed series contributes to the three main axes that characterize academic debates on film and environmental concerns. The first axis pertains to cinematographic modes of production, distribution, and consumption,<sup>4)</sup> wherein *Metarretratos* embodies and promotes more sustainable cinematic practices through the use of less toxic film-developing solutions. The second axis involves the thematization of nature, the environment, the more-than-human and its relations to the human.<sup>5)</sup> *Metarretratos* stands out by foregrounding vegetal existences and embracing plants as the stars of the films. This approach brings to the fore conceptions of the human, the “natural,” and the environment beyond human exceptionalism and anthropocentrism. Moreover, through its emphasis on the Guaraní knowledge about the depicted plants, *Metarretratos* challenges the dominant colonial narrative, wherein the colonizer is depicted as the exclusive knowledge holder. In doing so, the series presents a counter-movement to the prevailing extractive systems in which either the indigenous possessors of the expertise or the expertise itself are extracted or even destroyed.<sup>6)</sup> The third axis refers to the un-

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- 4) Some fundamental studies addressing the impact of the film industry on the environment are Nadia Bozak, *The Cinematic Footprint Lights, Camera, Natural Resources* (New Brunswick: Rutgers University Press, 2011), Richard Maxwell and Toby Miller, *Greening the Media* (Oxford: Oxford University Press, 2012), or Kate Oakley and Mark Banks, *Cultural Industries and the Environmental Crisis: New Approaches for Policy* (Cham: Springer International Publishing, 2020).
- 5) There are several studies addressing film's modes of representation of the “natural” and the other-than-human, such as Jhan Hochman, *Green Cultural Studies: Nature in Film, Novel and Theory* (Moscow: University of Idaho Press, 1998); Scott MacDonald, *The Garden in the Machine: A Field Guide to Independent Films about Place* (Berkeley and London: University of California Press, 2001); Anat Pick and Guinevere Narraway, *Screening Nature: Cinema beyond the Human* (New York and Oxford: Berghahn, 2013), and Ilda Teresa Castro, *Eu Animal — Argumentos para um Novo Paradigma — Cinema e Ecologia* (Sintra: Zefiro, 2015).
- 6) Due to the attention and dialogue it establishes with indigenous cosmologies of the region (Andean, Amerindian, etc.), Latin American cinema and its study may be particularly fruitful for questioning the dominant understanding of humans and other-than-humans. Nonetheless, research focusing on contemporary Latin

derstanding of image as matter and imagination as action in the world.<sup>7)</sup> By focusing on the processes and privileging the encounters involved in its material transformations, *Metarretratos* exposes the agency of both cinematic and vegetal matter in the creation of forms, images, and the world itself. It also reveals the intertwined practices of multispecies becoming and the inseparability of nature and technology, thus contributing to reconfiguring the understanding of both human and more-than-human modes of existence, as well as their relationships.

To develop the aforementioned argument, I closely follow the rhythms of the matter of the *Ceibo/Erythrina crista-galli* tree portrait and its four elements, filmed by Losana and displayed on the artist's webpage. By focusing on a specific vegetal mode of existence — the Ceibo tree, its trunk, flowers, and leaves — I aim to challenge the supposedly universal “plant” or even a “Ceibo” categorization. I focus on the specific rhythms of the Ceibo filmed by Losana as it exists in a particular soil and geography and at a specific time while simultaneously communicating with the spatialities and temporalities that exceed it.<sup>8)</sup> Approached in its momentary configuration, that is, in its rhythmic dimension,<sup>9)</sup> the Ceibo and its meaning require going beyond the individual and specific dimensions to focus on a meshwork of the interspecies relations that have made it what it is or what it may bring about in the future.<sup>10)</sup> The properties of the Ceibo matter are understood not as static, meaningless, and lacking the capacity to act, but rather as generative becomings, as things that act on/with other things. I am interested in how meanings and stories are “embedded in material forms, intra-acting with the lives and landscapes of humans and nonhumans.”<sup>11)</sup> As opposed to interaction, which supposes that there are separate individual

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American cinema has not yet been fully explored, with remarkable exceptions, such as Lucy Bollington and Paul Merchant, eds., *Latin American Culture and the Limits of the Human* (Gainesville: University of Florida Press, 2020) and Carolyn Fornoff and Gisela Heffes, *Pushing Past the Human in Latin American Cinema* (Albany: State University of New York Press, 2021). Indigenous cinemas have also been vital in challenging the forms in which film figures, shapes, and imagines human and more-than-human entities, and have been reinventing cinema, thus constituting a fundamental field to attend to. See, for instance, the following studies on indigenous cinema: Ana Carolina Estrela Costa, *Cosmopolíticas, Olhar e Escuta: Experiências Cineamáticas entre os Maxakali* (MA diss., Federal University of Minas Gerais, 2015); Rodrigo Lacerda, *Animism and the Mbya-Guarani Cinema* (London: Royal Anthropological Institute, 2016).

- 7) Some proposals focusing on the material conditions of cinema are Jussi Parikka, *A Geology of Media* (Minneapolis: University of Minnesota Press, 2015) or Kim Knowles, *Experimental Film and Photochemical Practices* (Cham: Palgrave Macmillan, 2020).
- 8) Even though I focus on the filmed Ceibo, which is in Plaza de Mayo in Buenos Aires, Losana depicts two Ceibos. One is filmed with a Super 8 camera in black-and-white. The second Ceibo, at an unknown location, is depicted through digital color photography. This choice to depict two Ceibos points to the diversity of Ceibos without wanting to reduce the totality to just one part. On the other hand, by presenting them almost as interchangeable trees, the Ceibo is devoid of its individual history, contributing to a “universal plant,” which would be desirable to challenge.
- 9) Following Benveniste, rhythm is understood as the momentary configuration of a flow in constant movement, observed in the moment of its formation. See Émile Benveniste, *Problèmes de linguistique générale* (Paris: Gallimard, 1966).
- 10) Donna Haraway, *The Haraway Reader* (New York and London: Routledge, 2004); Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham and London: Duke University Press, 2016).
- 11) Serenella Iovino and Serpil Oppermann, “Introduction: Stories Come to Matter,” in *Material Ecocriticism*, eds. Serenella Iovino and Serpil Oppermann (Bloomington: Indiana University Press, 2014), 13.

agencies that precede their relations, in intra-action these agencies are not regarded as distinct but as entities that emerge through their relations.<sup>12)</sup>

I begin this study by situating the *Metarretratos* project within the framework of plant-based processes for image creation. Subsequently, I delve into the botanical significance of the Ceibo tree, exploring its historical and cultural significance. Moving forward, I examine the specific location of the Ceibo tree as filmed by Losana, namely, the Plaza de Mayo in Buenos Aires, Argentina. I discuss how the project engages with the healing properties of plants, drawing from indigenous knowledge systems and embracing the philosophy of vegetal life. To conclude this essay, I emphasize the intertwined relationship between plant life and cinematic dispositif rhythms. Additionally, I put forth a speculative proposition regarding the *Metarretratos* dispositif's potential as a curative mechanism to address eco-traumatic aspects of landscapes.

## I. (Moving) Image Creation and Plant Worlds

### Background of the Plant-Based Image-Creating and Eco-Developing Processes

Plant-based image-creating may be dated back to the 1830s–1850s, to the work of scientists and amateur botanists such as John Herschel. Combining knowledge from botany, color theory, and the study of light, Herschel realized experiments using photosensitive emulsions of vegetal juices and the natural pigments of flowers from his garden to make images by letting them be exposed to the sun. This photographic process is called phyto-type, also known as anthotype. Herschel is additionally identified as the inventor of the photographic process cyanotype, widely used by botanists and artists Anna Atkins and Anne Dixon. The studies carried out by Mary Somerville on the effect of the solar spectrum on plants and other substances were fundamental to Herschel's experiments. Herschel is also known for other pivotal contributions to the field of photochemistry, namely the identification of a photographic fixer which was communicated to both William Henry Fox Talbot and Louis Daguerre. According to the photography historian Boris Kossoy,<sup>13)</sup> at the same time, Brazil was the site of cutting-edge experiences in the field of photography, thanks to the inventiveness of Hercules Florence, who created his own printing technique called polygraphy. In 1833, Florence managed to fix the image captured by a dark camera on paper using silver salts. Years before Herschel came up with the term, Florence used the word “photographie” in his diaries.

Concerning moving images specifically, the relationship between cinema and plants dates to the beginnings of cinema, as several studies have documented.<sup>14)</sup> Due to its sup-

12) Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham and London: Duke University Press, 2007).

13) Boris Kossoy, *The Pioneering Photographic Work of Hercule Florence* (New York: Routledge, 2018).

14) See, for instance, Karel Doing, “Phytograms: Rebuilding Human–Plant Affiliations,” *Animation* 15, no. 1 (2020), 22–36; Teresa Castro, Perig Pitrou, and Marie Rebecchi, eds., *Puissance Du Végétal et Cinéma Animiste: La Vitalité Ré-vélée Par La Technique* (Paris: Les presses du réel, 2020); Graig Uhlin, “Feminism and Vegetal Freedom in Agnès Varda's *Le Bonheur* (1965) and *Vagabond* (1985),” *Philosophies* 7, no. 6 (2022),

posed ability to objectively represent nature and its aptitude for rendering plant movement noticeable to human perception, film technology was soon understood as an important scientific tool. Despite the early fascination with plants, Patrícia Vieira states that cinema continues

to use humanity as a measure against which its alterity is outlined. [...] It is as if plants were a riddle that could now be solved by the new techniques of cinema and, when finally looking at them face to face, humans ended up contemplating another version of themselves.<sup>15)</sup>

Both mainstream and experimental cinema tend to confine more-than-human existences to the background, “blocking access to the semiotic sphere” and reinforcing human exceptionalism.<sup>16)</sup> Therefore, there is a tendency in cinema, as well as in cinema studies, to overlook the interdependence between the human and the more-than-human and to reinforce the division between culture and nature, as Anat Pick and Guinevere Narraway have pointed out.<sup>17)</sup> Furthermore, there is a propensity to downplay the significance of non-human existences in cinematic imagery and stories and to “underplay the intertwining of historical, social, and ideological concerns with the environments in which they arise and which they constitute.”<sup>18)</sup>

In film, the remission of the plant to the background of what really matters — the humans themselves and what matters to humans — is also done through different cinematic techniques. From the outset, by subordinating plant rhythms to the rhythm of human perception, through the manipulation of the image speed to make it “as realistic as possible,” using mainly visual devices such as time-lapse photography and the fixed camera that frames the plants in the center of the image. Even in cinema studies and critical plant studies, conceptualizations aiming to address film and vegetal worlds beyond the anthropocentric logic may fail in their attempt to overcome the human-centered perspective, due to their dominant tendency to show that plants are very much like *Homo sapiens*, and thus tying themselves to the naturalist paradigm, as spotted by Vieira.<sup>19)</sup>

Eco-developing, for its part, refers to a movement of artists, photographers, and filmmakers based on experimental black-and-white film-developing solutions in which toxic

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1–14; Teresa Castro, “Common Grounds: Thinking with Ruderal Plants about (Other) Filmic Histories,” *Philosophies* 8, vol. 1, no. 7 (2022), 2–18; Elio Della Noce and Lucas Murari, eds., *Expanded Nature: Écologies Du Cinéma Expérimental* (Paris: Light Cone Editions, 2022).

15) Patrícia Isabel Lontro Vieira, “Animist Phytofilm: Plants in Amazonian Indigenous Filmmaking,” *Philosophies* 7, no. 6 (2022), 2.

16) Chris Dymond, “New Growth: To Film Like a Plant,” *Ecocene: Cappadocia Journal of Environmental Humanities*, no. 2 (2021), 34.

17) Pick and Narraway, *Screening Nature*, 7.

18) Ibid.

19) Vieira, “Animist Phytofilm.” As I proposed elsewhere, we may extend the study of the relationship between cinema and plants to its intersections with the ritual consumption of plants by Amazonian shamans, the latter being understood as cinematic modes of experience that occur by other means. See Salomé Lopes Coelho, “Dream and *Yākoana*: Hypotheses to Understand Cinema as the Crossing of Worlds,” *La Furia Umana*, no. 43 (2022), n.p.

chemicals are replaced by elements less harmful to the environment. In addition to the independence they provide, these solutions are less damaging to human and more-than-human existences (water systems, air, etc.) than the standard developing solutions. Moreover, they are cheaper, easier to make, as they involve just three ingredients, and more accessible since they are homemade. Scott Williams and his Technical Photographic Chemistry Class at the Rochester Institute of Technology are often touted as the creators of a coffee-based black-and-white image-developing recipe that has served as the basis for experimentation for several contemporary artists and researchers (not just from cinema and art studies but also from scientific areas such as Radiology).<sup>20)</sup> The solution was later termed Caffinol. In 1995, Williams and the class found that tea and coffee were rich in phenolic acids (tannins), which have the potential for supporting film and paper development, and that when combining them with agents that balance the pH successfully, they can make printable images for the exposed film. Nowadays, sodium carbonate, a more convenient washing soda, is used as a pH-adjusting agent, with Vitamin-C (ascorbic acid) powder added to the formula — hence the name Caffinol-C.

### **(Moving) Image Creation and Plant Worlds in *Metarretratos***

*Metarretratos* can be placed in continuity with the botanic gestures of Herschel, Atkins, and the others mentioned above since Losana experiments with plant-based film-developing processes and focuses on botanical classification and knowledge conservation.<sup>21)</sup> In the interview I conducted with Losana, the filmmaker stated that her idea was to promote the ability to recognize trees, flowers, and their uses as a “superpower that we, those of the city, are not normally interested in.”<sup>22)</sup> She wants to preserve the endangered knowledge about different plants and their uses as well as to visually preserve the plants, as botanists would do, but, in her case, by filming them. In this way, *Metarretratos* offers modes for preventing the loss of a specific conception and understanding of vegetal worlds. The disappearance of certain medicinal uses of plants would be as if the landscape had a part of itself amputated. Another motivation to start these experiments for eco-developing procedures was the awareness that the toxic chemicals used in traditional developing solutions are drained into the plumbing system, ending up contaminating bodies of water. As Losana states:

I was a lab assistant [...]. So, while I was working with the chemicals, putting together the developers, then developing, I realized that there was something super aggressive about that [...] to get rid of the chemicals and throw them into the *Río de*

20) Scott Williams and Technical Photographic Chemistry 1995 Class, “A Use for That Last Cup of Coffee: Film and Paper Development,” *Rochester Institute of Technology RIT Scholar Works* (1995), n.p.

21) Within the Argentine context, besides Claudio Caldini’s films focusing on vegetal worlds, such as *Cuarteto* (1978) or *Poilean* (2020), we may refer to Leandro Listorti’s recent film *Herbaria* (2022), a striking example of the intersections between cinematic and vegetal worlds, as well as conservation gestures in cinema and botany.

22) Azucena Losana, personal interview, June 8, 2022.



*la Plata*. I asked for forgiveness from the *Río de la Plata*. It is a very small laboratory, and it was not that I was destroying the river, but it is a little bit like that, right?<sup>23)</sup>

Paradoxically, at around the same time that the Ceibo tree filmed by Losana was planted in Plaza de Mayo in Buenos Aires, the Finnish corporation Oy Metsä-Botnia Ab (commercial name Botnia) implanted two major pulp mills on the margins of the Uruguay River that flows to *Río de la Plata*, the River Plate. Losana was concerned about the waste of her developing work and the possible contamination of the River Plate, whereas Botnia had permission to install two factories on the east coast of the Uruguay River and extract a significant volume of water from it. More carbon dioxide was liberated into the atmosphere by these gigantic factories, as well as many other chemicals, endangering human and more-than-human entities, including the rivers themselves.<sup>24)</sup>

In the long history of dialogues between film and plants, Losana's work bears particular relevance due to this double gesture of using plant-based developing formulas and making the plants the stars of the films. While *Metarretratos* echoes the work of botanists, it distances itself from canonical taxonomies used in botanical studies. Losana establishes a way of looking at and dealing with plants that disrupt the botanical systems of collection, differentiation, and classification on a fundamental level: the Ceibo tree and its parts were not collected and extracted from the tree's home milieu. What is depicted is not a tree or parts of it that were plucked by the roots and meticulously prepared for cataloging, study, and conservation purposes; on the contrary, we see moving images of a particular tree, its leaves and flowers, and their way of existing in its own context. The tree parts selected for the developing process were collected from the ground after having fallen or having been harvested so that the life of the trees persists.

With regard to the resemblances between *Metarretratos* and the field of botany, the filmmaker initiates the visual presentation by positioning the complete tree at the center of the frame, employing a wide, static shot. Similar to how a paper sheet is to botanists, the wide shot of the plant is to film. The blurry image prevents a detailed view of the tree and its parts, which can only be achieved by two subsequent close-ups of the leaves and flowers. The first close-up maintains the Super 8 format, but in the second one, the image expands, its limits coinciding with the boundaries of the screen. This is an idiosyncrasy of this film, not observable in other works of the series. Losana's purpose is that of a botanist, i.e., a detailed depiction of the tree and its parts, but the difference lies in the technique being used. Cinema allows Losana to conduct our gaze between wide shots and close-ups. This resemblance with botanical gestures is also present in the description accompanying the images. The filmmaker uses a classification system through tree designations in different languages, as well as the specific family, according to the "International Code of Nomenclature for algae, fungi, and plants," resembling the usual botanic plates that tend to see plants as objects.<sup>25)</sup> The objectification of plants is common since they tend

23) Ibid.

24) The so-called "paper mill conflict" between Argentina and Uruguay involved strong citizen resistance and a demand to The International Court of Justice by Argentina.

25) Nicholas J. Turland, John H. Wiersema, Fred R. Barrie, Werner Greuter, David L. Hawksworth, Patrick S. Herendeen, Sandra Knapp, Wolf-Henning Kusber, De-Zhu Li, Karol Marhold, Tom W. May, John McNeill,



to be reduced to functions such as providing breathable oxygen, food, clothes, etc. This understanding of plants as objects or resources is only possible by depriving or eliminating “their powers of structuring the reality [...], namely, their characteristic and sensory affections, their singular temporality, their voracity, and their capacity to both kill and nourish or proliferate the living.”<sup>26)</sup>

In the following segment, I specifically explore the botanical significance of the Ceibo tree while also delving into its historical and cultural rhythms. Furthermore, the section examines the presence of the Ceibo tree in Plaza de Mayo and discusses the ways in which *Metarretratos* addresses the healing properties of plants, highlighting the intertwining of plant life and cinematic apparatus.

## II. The Rhythms of Vegetal and Cinematic Matter

### The Rhythms of the Ceibo/*Erythrina crista-galli* Flowers

Botany classifies the Ceibo tree as *Erythrina crista-galli* (from the Greek word *erythros* for red and from the Latin *crista-galli*, which means rooster crest). It belongs to the legume family *Fabaceae*, which has around 110 species dispersed throughout the tropical and subtropical regions of the planet. The *Erythrina crista-galli* possesses a tortuous trunk, compound leaves, trifoliolates with glabrous leaflets, and red flowers. The Ceibo's fruit is a pod with bean-like seeds. This species is typical of swampy lands, rarely found in the forest interior, and flourishes in the summer. The flower of the Ceibo is the national flower of Argentina, as designated in the Decree 13847/42 in December 1942, even though it is not the national tree (that is “Quebracho colorado chaqueño”/*Schinopsis balansae*) and each province has its own flower. The Ceibo tree originates in South America, especially in the coastal areas of Argentina, Brazil, Paraguay, and Uruguay, where it is also a national flower. In the year that the Ceibo was decreed the national flower of Argentina, the main square in Buenos Aires, Plaza de Mayo, was also decreed a National Historic Place. It is the Ceibo tree in Plaza de Mayo, the only one from this species at that location, that Losana films in *Metarretratos*. Flower and square both appear as “natural” tools to reinforce the national identity of Argentina.

One of the reasons mentioned in the decree for establishing Ceibo as the national flower is its evocations in legends, with the legend of Anahí being the most well-known. Anahí was a Guaraní resistant who was captured, along with other indigenous peoples, during the Spanish Conquest of the region. Taking advantage of the moment when the guard who watched her was sleeping, Anahí killed the incarcerator and managed to escape, but was not able to go too far and was eventually recaptured. As revenge for killing the incarcerator, Anahí was sentenced to death at the stake. She was tied to a tree, and when the flames started to touch her, she turned into a tree of green leaves and red flow-

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Anna M. Monro, Jefferson Prado, Michelle J. Price, and Gideon F. Smith, eds., *International Code of Nomenclature for algae, fungi, and plants* (Glashütten: Koeltz Botanical Books, 2018).

26) Noelia Billi, “La caída del cielo y la diplomacia vegetal,” *La Furia Humana*, no. 43 (2022), n.p.

ers, the Ceibo tree, dyed with Guaraní blood. There is a dissonance in choosing a tree entangled with the Guaraní cosmologies and resistance as a national symbol since the region's nation-states, Argentina included, were built upon the denial and genocide of the indigenous peoples that inhabited these territories.

The tree is thus deeply intertwined with the Guaraní people. The medicinal properties mentioned in *Metarretratos* are also based on Guaraní uses. Losana inclusively mentions the name of the tree in Guaraní, *zuinaná*, although I have only seen it referred to elsewhere as *zuiñandi*.<sup>27)</sup> One of the main goals of *Metarretratos*, as we saw before, was to acknowledge and spread the curative properties of the plants. Although its uses are varied, namely for construction, artifacts, and handicrafts,<sup>28)</sup> Losana chooses to address its medicinal properties and, specifically, how the Guaraní people used it:

The Guaraní used the flowers for dyeing, and the crushed bark was the only remedy for the poisonous wounds of the jaguar's claws. There was also a famous remedy made from the bark and flowers against "troubles of love," perhaps due to the alkaloids of the bark that have *deep narcotic and sedative properties. In moderate amounts it is good as a tranquilizer to combat anxiety and as a plant to sleep.* The leaves are used in baths and washes to heal sores and wounds. This same preparation serves to wash and/or stop the bleeding of wounds and cuts. [My highlights]<sup>29)</sup>

According to Gustavo Fabián Scarpa and Leonardo Martín Anconatani,<sup>30)</sup> the most "outstanding historic herbarium of the South American Southern Cone" is *Materia Médica Misionera* (1710) by the Jesuit Pedro de Montenegro. It consists of a treaty on medical botany, containing a corpus of information about the medicinal properties of plants used by Jesuit missionaries in the region, illustrated in a total of 136 plates. The botanical plate XXIV depicts some leaves from the Ceibo tree, trunks, and a jaguar (Fig. 2).<sup>31)</sup> The description emphasizes the curative properties of the Ceibo tree, indicating that, after shaving the thorns, the trunk should be smashed and applied to injuries.<sup>32)</sup> Relying on the knowledge of indigenous peoples, Jesuit priests such as Montenegro installed herbaria and

27) Jorge Miño, Susana Gorzalcczany, Valeria Moscatelli, Graciela Ferraro, Cristina Acevedo, and Oksana Hnatyszyn, "Actividad Antinociceptiva y Antiinflamatoria de *Erythrina Crista-Galli* L. ('Ceibo')," *Acta Farm: Bonaerense* 21, no. 2 (2002).

28) Giovana de Souza Pereira, Francisco Silva Noelli, Juliano Bitencourt Campos, Marcos Pereira Santos, and Jairo José Zocche, "Ecología Histórica Guaraní: As Plantas Utilizadas No Bioma Mata Atlântica Do Litoral Sul de Santa Catarina, Brasil (Parte 1)," *Cadernos Do LEPAARQ XIII*, no. 26 (2016), 198–246.

29) Losana, personal interview.

30) Gustavo Fabian Scarpa and Leonardo Martín Anconatani, "La 'Materia Médica Misionera' Atribuida al Jesuita Pedro de Montenegro En 1710: Identificación, Sistematización e Interpretación de Los Usos Medicinales de Las Plantas y Sus Implicancias Para La Etnobotánica Actual," *IHS: Antiguos Jesuitas En Iberoamérica* 7, no. 1 (2019), 24–46.

31) Roberto Poletto and Samuel Cristiano Welter, "A Matéria Médica Misionera Do Ir. Pedro Montenegro (1710): Um Estudo Sobre as Virtudes Das Plantas Medicinais Nativas Americanas," *Revista Historiador*, no. 4 (2011), 96–116.

32) Cf. Eliane Cristina Deckmann Fleck, "A Medicina Da Conversão: Apropriação e Circulação de Saberes e Práticas de Cura (Província Jesuítica Do Paraguai, Século XVIII)," *Revista de Estudos Marítimos y Sociales*, no. 11 (2017).



Fig. 2. Botanical plate XXIV, *Materia Médica Misionera*

pharmacies and systematized, and disseminated knowledge via frequent correspondence and circulating treaty copies among Jesuit settlements (called reductions), Jesuit Provinces of America, and Europe.

As stated by Moisés Santiago Bertoni, one of the best-known specialists in Guaraní medicine, there is a generalized idea that the Guaraní knowledge of the medicinal properties of flora comes from the Jesuits and their studies. Nevertheless, the Jesuits only assembled and spread the knowledge produced by the indigenous peoples.<sup>33)</sup> The indigenous knowledge was appropriated and frequently distorted due to the Jesuits' evaluation of all plants according to their understanding of European flora. Either the possessors of the expertise or the expertise itself were extracted and sometimes destroyed. Botany, affirms Noelia Billi, has been a part of an "extractive system of knowledge" from indigenous communities, promoting "the transplantation, capitalization, and exploitation of both human and plant groups."<sup>34)</sup> We may understand the Jesuits' knowledge appropriation, extraction, and destruction as forms of *epistemicide*. Although they did not "murder it," both the extraction of knowledge for the benefit of occidental humans and the deturbations by the Jesuits could expand the understanding of *epistemicide*, since it also involves the destruction of social practices and the disqualification of social agents that operated according to such knowledge.<sup>35)</sup> Furthermore, the extractive system also constituted one of the condi-

33) Moisés Santiago Bertoni, *De La Medicina Guaraní: Etnografía Sobre Plantas Medicinales* (Córdoba: Buena Vista Editores, 2008), 148.

34) Billi, "La caída del cielo y la diplomacia vegetal," n.p.

35) Raul Perterra, "The rationality problematique: An Anthropological Review of Habermas' 'The Theory of Communicative Action' Volume I," *Social Analysis: The International Journal of Social and Cultural Practice*, no. 23 (1988), 72–88.

tions for the genocide perpetrated by European colonization. By choosing to mention this indigenous knowledge and highlighting its Guaraní provenance and uses, Losana is promoting a counter-movement to the prevailing extraction, appropriation, and erasure actions.

Returning to the curative properties of the Ceibo tree and its geography, I find the selection and implantation of the tree with these characteristics in Plaza de Mayo intriguing. The reasons mentioned in the decree for electing the Ceibo as the national flower are not directly concerned with these properties: the decree refers to qualities such as the beauty of the flower or its importance to local folklore tales or music. Nevertheless, we may ponder the wounds that may need healing at the core of the political, economic, and social center of the capital and the country.<sup>36)</sup> Perhaps a more significant question would be related to the narcotic and tranquilizing properties of the tree and its hypnotic effects. We may ask why a tree with sedative properties would be installed at the core of the Argentinean nation-state, symbolically as the national flower but also physically due to its localization in the main square.

Plaza de Mayo has a crucial role in the history of the city and the country, and the Ceibo has taken part in and generated that history for almost two decades (Fig. 3).<sup>37)</sup> I am puzzled by the paths this inquiry may open. How has the Ceibo contributed to historical events? As Maurice Maeterlinck asserted in his book *The Intelligence of Flowers*, the “plant world that strikes us as so tranquil, so resigned, where all seems to be acceptance, silence, obedience, reverence, is on the contrary one wherein the revolt against destiny is at its most vehement and most obstinate.”<sup>38)</sup> We could ask about the resistances and rebellions of the Ceibo of Plaza de Mayo.<sup>39)</sup> Moreover, we can query about what the Ceibo of Plaza de Mayo has witnessed. To begin, we could ask how many rounds of the Madres de Plaza de Mayo the Ceibo has been part of through its particular mode of existence. How does its corporeality reveal the multiple spatial and temporal scales it traverses? How many demonstrations, riots, police violence, and political discourses, among other events, has the Ceibo witnessed? If the living structures of plants are *their* semantic structures, as Michael Marder states, what is this Ceibo filmed by Losana expressing?<sup>40)</sup> What are the stories it tells? Would it be possible to translate its forms of knowledge, sensitivity, memory, learning, and thinking?

In dialogue with the herbarium created by the artist Anaïs Tondeur, consisting of 31 rayograms of plants harvested in the “exclusion zone” of Chernobyl, i.e., the thirty kilo-

36) Sonia Berjman, “Una Mirada a Los Espacios Verdes Públicos de Buenos Aires Durante El Siglo XX,” *Revista de Arquitectura* 8, no. 1 (2006), 28–33.

37) Concerning the age of the Ceibo, and, consequently, the events it may have witnessed, it was not possible to find the precise date of the plantation. I was able to collect some photos of the Ceibo in Plaza de Mayo and identify the year they were taken through the events depicted (usually demonstrations). Showing them to a landscape architect from Argentina, Ana Pessio, it was possible to identify their estimated age.

38) Maurice Maeterlinck, *The Intelligence of Flowers* (New York: State University of New York Press, 2008), 2.

39) The Mothers of the Plaza de Mayo is a human rights movement founded in opposition to the military dictatorship by Jorge Rafael Videla. Its main missions are to locate the *desaparecidos* (the missing) and to identify those responsible for the crimes against humanity in order to advance their trial and sentencing. Since 1977, the Mothers of Plaza de Mayo have been marching around the Plaza de Mayo every Tuesday.

40) Anaïs Tondeur and Michael Marder, *Chernobyl Herbarium* (San Sebastián: Cristinaenea Fundazioa, 2003), 19.



Fig. 3. Ceibo between protest banners (on the left), Malvinas war veterans protest camp. Plaza de Mayo, 2010. Photo by Katja Speck

meters surrounding the nuclear plant whose reactor number four exploded in 1986, Michael Marder writes 31 reflections and memories. Drawing on a rayogram of the *Geranium chinum*, the philosopher addresses the plants' excess of meaning. Before any use, he argues, "plants radiate a meaning of themselves, and their corporality [...] is the result of a living interpretation of the environment, such as the direction and intensity of the sun-rays or the amount of moisture in the air."<sup>41</sup> Although he is referring specifically to the impression of radioactivity in the images, we may wonder whether this excess of meaning does not permeate other plants and their temporal and spatial scales. Perhaps this excess linked to the history of plant growth in a specific soil is expressed and imprinted on the image beyond the specific case of the Chernobyl flora. With Marder, and like Anaïs Tondeur's plants, we may say that Losana's trees assimilate the imperceptible and inconceivable, and that this excess of meaning, dense and impenetrable, jumps from the frame.

### The Rhythms of the Cinematic Dispositif and the Ceibo Flowers on Film

We may speculate whether the *Metarretratos* dispositif, encompassing its technological, enunciative, spatial, temporal, and material dimensions, is influenced by the curative properties of the plants employed. *Metarretratos* prompts an inquiry into whether the dispositif not only employs or accommodates plants as developers and subjects of the films

41) Ibid.

but also serves as a conduit, translation, and transposition of the plants' curative properties. In this capacity, it operates as a healing mechanism to address the eco-traumatic dimensions of landscapes on multiple scales. A more explicit scale is related to climate change, specifically concerning the contamination of water bodies. By substituting toxic chemicals with local plants, Losana reduces the impact of the film on water, albeit very slightly. Moreover, this gesture can enhance other artists' and filmmakers' care practices, affecting their future choices. A second scale would be the foregrounding of Guaraní knowledge of the plants. By highlighting the Guaraní provenance and uses of the plants, Losana is resisting the epistemicide initiated by the colonization of indigenous knowledge, which still prevails through gestures of extraction, appropriation, or erasure.

In *The Life of Plants*, Emanuel Coccia claims that plant life is "life as complete exposure, in absolute continuity and total communion with the environment," thus embodying the most direct and elementary connection that life can establish with the world.<sup>42)</sup> Because of that, plants are the purest observatory for contemplating the world in its totality, the philosopher argues. In this theorization of vegetal life, flowers have a primordial role since they are the consummation of the process of absorption and capture of the world. To get to know the world coincides with the variation of the form itself, its metamorphosis caused by the outside, with the flower being the part of the plants that allows this process to be achieved. The evolutionary choices of flowers, or their metamorphoses, are not limited to the production of energy via photosynthesis, although light matter has a paradigmatic role in both plants and image creation. As Roland Barthes beautifully writes in *Camera Lucida*, in a passage that Losana recalled in our conversation, light traverses the thing photographed and the person observing the photograph:

From a real body which was there proceed radiations which ultimately touch me, who I am here [...]; the photograph of the missing being, as Sontag says, will touch me like the delayed rays of a star. A sort of umbilical cord links the body of the photographed thing to my gaze: light, though impalpable, is here a carnal medium, a skin I share with anyone who has been photographed.<sup>43)</sup>

Losana felt touched — moved — by the idea that the light touching the Ceibo tree was touching her while filming and developing the image of the tree. She was also touched — moved — by the light itself that had touched the tree. We can discuss whether light is just a transversal component touching different elements of the world or whether it may be the very condition of possibility for those elements. The light that has touched that Ceibo tree does not just touch Losana or us now, in the moment of our encounter, but it is the very condition of possibility of that encounter, providing the medium we both inhabit, the atmosphere. Barthes states: "It is often said that it was the painters who invented Photography [...]. I say: no, it was the chemists." And we may say: "No, it was the chemicals and the light."<sup>44)</sup>

42) Emanuele Coccia, *The Life of Plants: A Metaphysics of Mixture* (Cambridge: Polity Press, 2019), 14.

43) Roland Barthes, *Camera Lucida: Reflections on Photography* (New York: Hill and Wang, 1981), 80–81.

44) Ibid., 80.



It is thanks to the flower that plant life becomes a space in which colors and shapes explode, conquering the mastery of appearances. When related to the film camera and the developing solution, the Ceibo flower's capacity for multiplying forms strengthens. The film-developing formula based on Ceibo flowers not only embraces the forms and colors of the flowers but also metamorphoses itself into other forms, shapes, and images. It allows the passage from a latent image on the film's emulsion into a manifest image. If the flower is an active instrument of the mixture, since any encounter and any union with other individuals occur through the flower, these entities appear as a threshold where the individual and the species open themselves to the possibilities of mutation, change, or death. The power of the mixture is amplified by the cinematic dispositif (both the camera and the developing procedures). Film is not circumscribed to appearances, and the fact that *Metarretratos* depicts the flowers as responsible for the form's transfigurations requires us to look back at the technical apparatus. *Metarretratos* reveals that the medium is "natural" from the outset. The project exposes the world as it is: a "natureculture," an inseparability of what is conceived as the natural world and the technical one.<sup>45)</sup> *Metarretratos* was able to foresee and translate that into a cinematic experience; that in flowers, there is no opposition between matter and fantasy, imagination and development, body and knowledge, image and matter.

By foregrounding the plants in the same gesture as it embraces them as the stars of the film, *Metarretratos* reveals that both the vegetal life and the cinematic dispositif are places of indistinction between the material and the cultural. The project does not merely "depict" vegetal life; instead, it reveals the agency of plants in the performative construction of the world. What is displayed in *Metarretratos* is the world exposed in its inextricable mixture, i.e., as a meshwork of human and more-than-human entanglements, including not just the vegetal life, the fungi or water, to name some other-than-human modes of existence, but also the inhuman cinematic apparatus. The plants are already technical devices of development, and cinema is a natural phenomenon (from the minerals used on the cameras to the celluloid, etc.). In other and more adequate words, *Metarretratos* puts the understanding of technology and nature as separated realms under suspicion.

## Conclusion

I have argued that *Metarretratos* makes an important contribution to discussions about film and environmental issues on three levels: a) with regard to cinematographic modes of production, b) concerning the thematization of the more-than-human and its relationships with humans and the environment, and c) with reference to the understanding of images as matter and imagination as action in the world. Moreover, I suggested that the cinematic dispositif that *Metarretratos* involves is able to accommodate, translate, or trans-

45) Introduced by Donna Haraway, the term does not have a single definition. It brings together different epistemological and ontological approaches that question dichotomies, such as nature/culture and human/non-human, highlighting the inseparability and mutual constitution of binaries. See Donna Haraway, *The Companion Species Manifesto: Dogs, People, and Significant Otherness* (Chicago: Prickly Paradigm Press, 2003).

pose the curative qualities of plants, functioning as part of a curative mechanism of eco-traumatic aspects of landscapes at different scales. The first possibility for these curative properties is *Metarretratos*' promotion of more sustainable cinematic practices through the use of less toxic film-developing solutions. Although on a very small scale, Losana's practices contribute to the reduction of water contamination, be it the River Plate (more directly concerned with the project) or other planetarily connected water bodies, such as the Douro River, where the filmmaker and I first met. The second dimension to consider would be the challenge of the general distribution of the sensible<sup>46</sup>) that tends to reduce plants and other-than-humans to passive, static substances devoid of meaning and deprived of the potentiality to act. Additionally, the series foregrounds Guaraní knowledge of the portrayed plants, contesting the extractive system that devalues or devastates indigenous expertise.

In Spanish, Losana's mother tongue, the developing process is called *revelado*, which literally means revealed, also sounding as *rebelado*, rebelled. In *Metarretratos*, what is constantly being revealed, simultaneously rebelling against a full understanding, is the process itself, the gestures, and the materiality involved. The processes involved in the film's material transformations are given priority over the film itself, which is no longer the sole focus of attention. What is *eco revelado*/eco-developed in *Metarretratos* is the very agency of more-than-human matter — the vegetal and the cinematic — in the creation of forms, images, or the world itself. It exposes the inseparability of nature and technology, suggesting that instead of the interactions among supposedly preexisting elements, there exist naturecultures with intra-acting elements. Like the very Ceibo flowers filmed by Losana, *Metarretratos* is an agent of revelation and a matter of agency, simultaneously revealing and being revealed, and hopefully also rebelling.

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### Filmography

*Ceibo/Erythrina crista-galli* (Azucena Losana, 2020)  
*Cuarteto* (Claudio Caldini, 1978)  
*Herbaria* (Leandro Listorti, 2022)  
*Palo Borracho/Ceiba Speciosa* (Azucena Losana, 2020)  
*Poilean* (Claudio Caldini, 2020)  
*The Sound We See — Fernanditol* (Azucena Losana, 2018)  
*Tutiá/Solanum sisymbriifolium* (Azucena Losana, 2020)

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