

## PLANTS' KNOWLEDGE: ONTOLOGIES, PRACTICES, AND RELATIONSHIPS

### ABSTRACT: PLANTS' KNOWLEDGE: ONTOLOGIES, PRACTICES, AND RELATIONSHIPS

What can philosophy say about plants? Also, what can reflections on plants add to the philosophical debate? Those are just two of the several questions that could arise when confronting the so-called "philosophy of plants", a vibrant and relatively young field that attempts to investigate and deepen our understanding of botanical species from a philosophical viewpoint. Indeed, the answers to these questions can be various, since the philosophical perspectives on plants are manifold: from Critical Plant Studies to plant neurobiology, and passing through Traditional Ecological Knowledge, ethnobotany, and biosemiotics, there are several positions from which we can discuss about plants and investigate their role not only in ecosystems, but also within human (or, as we should call them, multi-species) societies. In this brief contribution, we will present the Dossier *Plants' Knowledge: Ontologies, Practices, and Relationships*, underlining how the line that will link all the contributions will be plurality: a multitude of positions and perspectives, which best represents not only the contemporary landscape of plant philosophy, but also the structure of the plants themselves, which, unlike human and more-than-human animals, have a non (totally) centralised organization and growth. From the alterity of plants, a different form of knowledge can emerge, and this Dossier illustrates not only some of the reflections that philosophy can bring to plants, but also the consequences plant philosophy has beyond the plant world, providing some answers to the two questions that opened this abstract.



Continue this practice daily and you will no longer need a nose to smell or a mouth to speak. Your entire body will become an olfactory organ sniffing out the richly fragrant world around you. Indeed, the atmosphere is a collaborative ecology of volatile chemical signals to which you actively and volubly contribute. Take pleasure in the art of synthesizing and releasing complex bouquets of fragrance from your tissues. This is your way of telling the world what you are up to, moment to moment. You can talk to other plants and animals, reporting on the condition of your leaves, flowers and fruits. You will be able to lure pollinators and complain audibly about the damage done by feeding insects. Indeed, you not only feel insects crawling up your stem and slicing into your tissues, you can discern the distinct species eating your leaves by tasting the specific chemistry of its saliva. If you are quick you can synthesize volatile compounds to warn your neighbours so that they can prepare their tissues with toxins to keep the offending insects at bay. Or you could call out for help from other insects who will prey on these herbivores. Soon you will discover that you are an effusive catalyst at the centre of an affectively charged chemical ecology.

N. Myers, *Sensing botanical sensoria*<sup>1</sup>

---

<sup>1</sup> N. Myers, *Sensing Botanical Sensoria*. A Kriya for Cultivating Your Inner Plant, in «Centre for Imaginative Ethnography», 2014, available at <https://r.jordan.im/download/ecology/Myers%20-%20A%20Kriya%20for%20Cultivating%20Your%20Inner%20Plant.pdf> (accessed 25 June 2025), p. 5.

Philosophy of plants is a new frontier in Western theoretical thinking. Although it is a relatively recent field of study, it is enriched by several (and sometimes at odds) perspectives. Critical plant studies and plant neurobiology, for instance, enhance debates on environmental philosophy and ethics with different proposals, but share a common idea: the lives of plants matter and should be explored and discussed by philosophy. From various angles, plant philosophers are attempting to investigate the concept of “vegetality,” intersecting with both biological and cultural studies. As Stefano Mancuso provocatively suggested, “the Nation of Plants does not recognise animal hierarchies, based on command centres and concentrated functions, and favours widespread and decentralised plant democracies”<sup>2</sup>, enforcing the idea that plant structures and organisations are radically different from animal and human life. If, on the one hand, the terms “animal” or “plant” in biology include a large number of living beings very different from each other (as Alessandro Minelli notes, we cannot identify an “animality”<sup>3</sup> given the heterogeneity of organisms within the animal kingdom, and consequently we add that there is neither a “vegetality” given the equally heterogeneous plant world), in philosophy these words represents precise categories with historically established boundaries. It is explanatory, in this sense, what Helmuth Plessner wrote in the fifth chapter of *Levels of Organic Life and the Human*:

[...], in ideal terms, the animal and the plant are strictly distinct from each other in their modes of organization, which is why there may be many properties in which they only differ from each other by degrees and in some areas may even coincide. A purely empirical distinction between plants and animals will always run into great difficulties because it will not be able to simply pass over the existence of transitional forms<sup>4</sup>.

---

<sup>2</sup> S. Mancuso, *La nazione delle piante*, Editori Laterza, Roma 2019, p. 9.

<sup>3</sup> A. Minelli, *Animale, animali*, in «Etica & Politica / Ethics & Politics», xix, 2, 2016, pp. 243-251.

<sup>4</sup> H. Plessner, *Levels of Organic Life and the Human. An Introduction to Philosophical Anthropology* (1928), trad. ing. Fordham University Press, New York 2019, p. 203.

Consequently, the categories “animal” and “plant” are ideal, abstract, and linked to some general differences which are not always observable from an empirical point of view. Some philosophers have argued for the necessity of overcoming the distinction between kingdoms, following the so-called eliminativism, to achieve a unified discussion of biological entities and processes<sup>5</sup>. However, in this Dossier, we decided to maintain the distinction between plants and animals, as we still consider it fruitful and essential to discuss plants from a philosophical and political perspective. Firstly, for plants themselves, whose ontological and ethical status still need to be addressed in their specific properties – moreover, botanical species represent 80% of biomass on this planet<sup>6</sup>, and still are held at the borders of philosophical reflection. But also to connect and create bridges with cultures and philosophies that reflected on vegetal life differently from the Western tradition. This approach allows us to connect different paradigms to discuss not only plants, but also ecosystems, biotic communities, and their future—and present.

Approaching botanical species from a philosophical perspective today involves, on one hand, examining their unique characteristics and, on the other, exploring how these traits influence ecosystems, societies, and cultures. This approach highlights the active roles that plants play within various multispecies relationships. Indeed, anthropocentric and zoocentric discussions cannot cover the subject thoroughly: as Stella Sandford notes in *Vegetal Sex*, one of the most critical challenges

---

<sup>5</sup> M. Haber, *Colonies are individuals: Revisiting the Superorganism Revival*, in F. Bouchard & P. Huneman (Eds.) *From Groups to Individuals: Evolution and Emerging Individuality*, MIT Press, 2013, pp. 195–217; A. Lopez & M.P. Camacho, *There's Something in the Water: Algae, Eliminativism, and our Moral Obligation to Biological Beings*, in Y.H. Hendlin, J. Weggelaar, N. Derossi, & S. Mugnai (Eds.) *Being Algae. Transformations in Water, Plants*, Brill, Leiden/Boston 2024, pp. 26–46.

<sup>6</sup> Y.M. Bar-On, R., Phillips & R. Milo, *The biomass distribution on Earth*, in «Proceedings of the National Academy of Sciences of the United States of America», cxv, 25, 2018, pp. 6506–6511.

of a plant philosophy is to overcome zoocentrism – namely, the philosophical tendency to study botanical species by comparing them to animal models – and try to develop theories on plant organisms from their “radical alterity”<sup>7</sup>.

To explore this “plurality” of plants, as defined by Hendlin<sup>8</sup>, and follow the non-determined growth that characterises them<sup>9</sup>, in this Dossier, we decided to publish different views and proposals, offering to the readers many angles and perspectives from botany to moral philosophy, anthropology, history, biosemiotics and the so-called Traditional Ecological Knowledge, showing some of the various paths through which vegetal living beings can be studied, crossing the boundaries and margins imposed by (part of) Western philosophical thinking<sup>10</sup>. Our primary goal was to establish a

---

<sup>7</sup> S. Sandford, *Vegetal Sex. Philosophy of Plants*, Bloomsbury Academic, London 2022, p. 14.

<sup>8</sup> Y. H. Hendlin, *The ensemblist nature of plant plurality*, in «Semiotic Review», VI, 2020.

<sup>9</sup> M. Marder, *For a Phytocentrism to Come*, in «Environmental Philosophy», XXI, 2, 2014, pp. 237-252.

<sup>10</sup> The history of plants in European thought is indeed complex. Starting from the Aristotelian tripartition of the soul (see Aristotele, *De anima*, trad. it., La Nuova Italia, Firenze 1972), we reach more contemporary times, when part of the philosophical anthropology of 900 has supported the existence of a supposed “great chain of being” (A. O. Lovejoy, *La grande catena dell’essere* (1936), trad. it. Feltrinelli, Milano 1966, at whose ends are respectively the human being, on one side, and the plant on the other. Authors such as Max Scheler (M. Scheler, *La posizione dell’uomo nel cosmo* (1928), trad. it. Armando Editore, Roma 2006), the already mentioned Helmuth Plessner, and even philosophers of other theoretical currents like Henri Bergson (H. Bergson, *L’evoluzione creatrice* (1907), trad. it. Raffaello Cortina Editore, Milano 2002), have reinforced the idea of the plant organism as something sometimes passive, sometimes incomplete and dependent on its environment and, overall, not able to influence actively their territory like animals and humans. However, among these exceptions, it is vital to mention Charles Darwin, who, in his famous work *L’Origine delle specie* (1859), trad. it. Bollati Boringhieri, Torino 2021, incorporates plants into its general vision of evolution, where it does not see a qualitative leap between the plant and animal kingdoms, but rather a more nuanced passage within the great chain of life’s development. Today’s biological and botanical discoveries, however, challenge such a solid and impenetrable partition of the living (for instance, the classic division of the biosphere into three kingdoms must be increased to five according to more contemporary perspectives) – see T.A. Sebeok, *Global Semiotics*, Indiana University Press, Bloomington 2001 – allowing the philosophy to expand its boundaries and focus on the different perspectives that plant organisms offer us. However, it is essential to remember that philosophy and biology are not unified disciplines; instead, there are opposing currents of thought. If, on the one hand, some philosophers moved away from mechanistic positions on plants, some biologists still refer to the great chain of being. At the same

bridge between these pluralities, taking into account the authors' diverse backgrounds, approaches, and perspectives.

The result is a Dossier rich in perspectives and proposals, where plants are discussed and faced from several viewpoints. In *What is Plant Ethics. Two Models*, Gianfranco Pellegrino examines the two main ethical frameworks typically used to determine the moral status of plants: the individualist model and the organic units model. After asserting that both frameworks rely on extensionist – and thus problematic – approaches, the suggestion for a non-extensionist alternative emerges, proposing to focus on the unique and essential properties of plants. In *Vegetal Radicality as a Legacy of the Paris Commune: The Wild Forest of the Palais d'Orsay*, Sacha Bourgeois-Gironde and Margot Lumb guide us through the history of the forest that grew in the ruins of Palais d'Orsay, using political lenses and proposing the concept of “vegetal radicality”. Through this contribution, the plants' ability to embody forms of resistance to biopolitical control and power arises. In Alcira Bonilla's article, *El “lugar” de las plantas. Errancias interculturales entre la “filosofía del jardín” de Massimo Venturi Ferriolo y la “ontología de la Floresta” del pueblo yanomami*, philosophical “errancy” is presented as a method of intercultural listening that connects relational ontologies centred on plants. Through Venturi Ferriolo's gardens, Kusch's American vegetal thinking, and Kopenawa's living forest, a critique is made of the naturalist, Western-centric ontology and an ethical relocation of the human being among other living beings is proposed. In *Fitocentrismo e biointerazione: nuove prospettive sulla relazione tra l'essere umano e la natura*, we try to build a bridge between Michael Marder's phytocentrism and Antônio Bispo dos Santos' bionteraction, showing that plants can indeed create a

---

time, other scientists have previously opposed this theory. Refer, for instance, to E. Rigato, A. Minelli, *The Great Chain of Being is Still Here*, in «Education and Outreach», VI, 18, 2013, where the two authors show how the use of the concept of a “scala naturae” and its terminology are still present in some scientific publications.

dialogue between different cultures and philosophies and claiming that an approach that excludes non-Western perspectives will always be incomplete to discuss plants in a non-anthropocentric or zoo-centric manner. In *Negotiating domestication: revisiting plant agency with agricultural pesticides*, Sabrina Muscolino and Antonio Umberto Masetti provide a reading of the relationship between humans and plants through pesticides as a channel of communication and co-action, questioning the idea of one-way domestication, emphasising the role of plant agency, and showing how a fruitful dialogue between biology and anthropology is possible while discussing plants. In *Ethological Ethics of Vegetal Life. Permaculture as a Practice towards Mutual Flourishing*, Shinu Kim discusses the practice of permaculture starting from a personal encounter with plants and applying the Deleuzian framework to plant ethics. In this way, a non-anthropocentric path for vegetal ethics is paved, and permaculture is understood as a multispecies flourishing. In *Dall'individuo al condividuo. Verso un'etica relazionale delle piante*, Viola Di Tullio questions the concept of individuality in plants, aiming to apply the idea of "coindividuo" to botanical species, thus avoiding a zoocentric reading of these living beings and discussing a different plant anthropological ontology. Finally, in *A Biosemiotic Elaboration of Agamben's Experimentum Linguae: Toward an Experimentum Semioseos*, Lex van der Steen, reading Agamben's *Experimentum Linguae* through the lens of biosemiotics – namely, the study of signs in the biological world – also discusses vegetative semiosis and life.

As this brief overview demonstrates, the philosophy of plants can encompass a wide range of aspects and raise even fundamental questions that transcend the boundaries of the vegetal kingdom. Ecosystems, individuality, ethics, interculturality and history can be re-observed and re-discussed, taking into account the plant

perspective<sup>11</sup>. The human-plant relationships will hopefully change and evolve in the future to face climate change and biodiversity loss, and coexist and survive the ecological devastation we are already observing in some territories. Beginning to explore the political and ethical significance of plants is a crucial initial step, with philosophy playing a key role in this process.

*FEDERICO COMOLLO  
MARIA ELISA BONAUDI*

---

<sup>11</sup> Or, at least, trying to consider the plant's perspective since we cannot fully detach ourselves from our human viewpoint.