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Introduction: Networks of Plants and the Language of Resonance

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his Special Issue of *Plant Perspectives* explores the multifaceted relationships between scientific and artistic expressions and plants in various genres, from literature and art to dance and media. The multidisciplinary contributions in this volume are linked by an exploration of the concept of 'resonance' as a potentially meaningful way of establishing and describing an ethical and non-anthropocentric relationship between humans and plants. The concept of 'resonance' was originated by the German sociologist Hartmut Rosa. Rosa defines resonance as a relationship of response when a subject is affected by the world, perceives its otherness and uniqueness, and undergoes transformation through affectation, self-efficacy and adaptation (Rosa 2019: 19). Adopting Rosa's sociological concept to explore human-plant relationships means recognising plants, if not as persons (Hall 2011), then as beings with intelligence, sentience, agency and a kind of language – although they are silent. This recognition is based on critical and cultural plant studies, which not only emphasise the world-building capacity of plants as a fundament of our planet's life but also explore the many modes of human-plant entanglements, conceiving plants and their networks as processes of semiosis and communication (Marder 2012). To attend to this kind of language, critical plant studies presupposes the 'voices of non-human nature' (Peeples and Depoe 2014: 9), in particular a voice of plants that humans can hear if we think with plants and 'recognise them as kin … in our co-production of ecologically sustainable futures' (Lawrence 2021: 15).

The multiple ways of accessing the communicative capacity of plants and their silent voices have been discussed in recent decades not only in biology, botany, (forest) ecology and vegetal geography, but also in anthropology, ethics and literary, cultural and media studies. The latter are the focus of this special issue. The analysis of plant communication encompasses the ideas of a 'secret life of plants' (Tompkins and Bird 1973), a 'wood wide web' of interplant transfer of water, nutrients and defence signals (Simard 2021), and a 'language of plants' (Gagliano 2018). In this respect, plant signals are not conceived in a metaphorical

or symbolic way but as 'direct, sensory, and embodied' (Gagliano et al. 2017: xv). Plants respond to their environments through interactions with symbiotic microorganisms and mycorrhizal networks (Simard 2021), and through neurobiological and 'chemical dialogue' with each other (Mancuso and Viola 2015). In addition, plants possess electrical conductivity, the signals of which have been measured by galvanometers and 'crescographs' since the early twentieth century. Furthermore, in forest laboratories such as the *TreeWatchNet*, plants can 'speak' through sensors that measure their daily growth and sap flow as media-technical hybrids. Some authors have therefore conceptualised trees as subjects and 'narrators' (Schneider 2018) and attributed 'authorship' to plants (Gagliano et al. 2017: xxvi), albeit not from an anthropocentric or zoocentric stance. In contrast, German forester Peter Wohlleben (2015) has described the 'secret life of trees' in anthropomorphic terms, receiving broad public attention to the dismay of most mainstream academics.

Exploring the silent voices of plants in literature and poetry presupposes a 'porous' boundary 'between artistic portrayals of flora and the imprints left in texts by the plants themselves', what Patrícia Vieira (2017: 218) calls 'phytographia' or 'plant writing'. Phytographia is a 'communion' of the 'inscriptions of all living beings in the world' (Vieira 2017: 224) and the language of literature with the attitude and ability to recognise their imprints on human existence and to express these inscriptions artistically. Literature is seen as a 'mediator in the aesthetic encounter with plants' (225). The notion of a plant voice 'encompasses plants' silent presence in space and time, their sensory articulations within an Umwelt, and their modes of signification' (Ryan 2017: 283). This concept of vegetal voicing resists a 'techno-logical mediation' (275), 'literary conventions … and human paradigms of vocalization' (292), and is perhaps best mediated through poetry, though poetry too takes place within the confines of human language. Phytographia as a 'communion' of non-human and human language can be differentiated from 'phytopoiesis' or 'phytopoetics' that involves collaborative becomings between humans and plants (see also Ryan's article in this Special Issue). A broader conceptualisation understands 'phytopoetics' as an umbrella term for any kind of 'shaping of human culture by plants' (Jacobs 2022: 603) that includes material and metaphorical dimensions as well.

When plants and their networks are given a voice, they can, despite their ontological differences, act as an equal in relation to humans.

Listening to and addressing plants may favour 'a grammar of animacy', as Indigenous environmental biologist Robin Wall Kimmerer (2017) has suggested. While the common vocabulary of botany has well-established categorisations and taxonomies, accessing the animacy and interconnectedness of the non-human world at the deeper level of grammar and syntax seems difficult. As member of the Citizen Potawatomi Nation, Kimmerer shows that, in the Potawatomi language, it is always clear whether words refer to something animate or inanimate (seventy per cent of words are verbs as opposed to about thirty per cent in English). At the same time, she looks for a linguistic form to address the plant not as an object (it) but as a being, a person, emphasising a non-hierarchical human 'kinship with all of the animate world' (Kimmerer 2013: 56).

From here, it is a small step to a language of resonance in the sense of Hartmut Rosa, which has been also adopted in philosophy (Goldstein 2019) and literary studies (Malkmus 2020). Language has a constitutive role in human relations to the world, whereby 'the words do not denote practices that exist independently of them, but a constitutive part of them' (Rosa 2022: 152). In a phenomenological tradition, 'humans do not primarily appear as beings capable of speech, reason or emotion but of resonance' (68). For Rosa, a successful relationship with the world is a relationship of resonance, when we 'reach, move and allow ourselves to be moved by other people, by plants and mountains, by music, by history' (25). He diagnoses 'the strict separation between a speaking, animated human world of culture and a mute, raw material of nature to be tamed and controlled … as a cause of the ecological crisis of the present' (383). In contrast, resonance relationships and an increased resonance sensitivity allow for a more equitable human-plant relationship that challenges dominance, control and subjection. For him, like for Gagliano, Ryan and Vieira (2017), art and literature have the potential to break down the rigid boundaries between human and plant communication and enable a deeper, more respectful connection and co-creation.

The contributions in this special issue draw on Hartmut Rosa's concept of resonance to explore the relationships between humans and plants, approaching the topic from different angles within the humanities. Through an interdisciplinary lens, the contributions investigate the complex voices of plants and various forms of a language of resonance that can be found in essays, novels, science fiction, poetry and nature

writing, as well in interactive media installations and dance performances. By employing cultural-critical perspectives, they seek to unpack the rich implications of what it means to assume a reciprocal relationship between humans and plants. They also reveal the challenges and limitations of such an assumption, especially when considered in the context of European colonialism, scientific optimism and the profound environmental changes associated with the Anthropocene.

John C. Ryan's article on phytopoetics and the phytosphere explores poetry in relation to the root-soil interface, leaves and the inner domain of plants. Introducing phytopoetic theory to frame the deep connection between plant life and poetic expression, Ryan seeks to challenge conventional notions of plants as passive entities and emphasises their agency within poetry and practice. He argues that poetry informed by a phytospheric perspective foregrounds the agency of plants within their own multiple spheres of interaction. The concept of the phytosphere refers to the interrelated ecological zones in which plants are involved, specifically the rhizosphere (root zone), phyllosphere (leaf surfaces) and endosphere (internal plant tissues). The theoretical underpinnings of the article are developed through an exploration of the rhizospheric poetics of Louise Glück and Brenda Hillman, the phyllospheric poetics of Ted Hughes and Kathy Jetnil-Kijiner, and the endospheric poetics of Michael McClure and the Microcosms Project. Ryan sees the phytosphere as a site of linguistic diffusion and a catalyst for empathic engagement with plant life. According to Ryan, phytopoetics integrates botanical domains, foregrounds human-plant relationships and advocates a rejection of the marginalisation, degradation and romanticisation of plant life. Ultimately, phytopoetics calls for a deeper immersion in botanical life and a broader recognition of the agency of plants and their integral role in ecological and cultural systems. At the same time, Ryan advocates a shift in perspective to recognise humans and plants as co-creators of meaning and existence while urging us to prioritise their well-being for the continued health of the planet.

Similarily, Joela Jacob's article also explores the complex relationship between botanical terminology, literary tropes and cultural resonances, focusing on how different parts of plants serve as powerful figurations in literature and cultural practices. These symbolic representations, referred to as 'phytopoetic resonances', reveal how plants profoundly influence and shape human thought, imagination and cultural expression.

Jacobs defines the concept of 'phytopoetic resonances' as the ability of plants to leave an imprint on the human imagination, particularly through their resonances in language and literature. The article traces the linguistic application of botanical nomenclature – such as leaves, roots, stems, flowers and fruits – and highlights how these terms transcend their botanical origins to function as literary symbols, metaphors and allegories across different linguistic and cultural landscapes. Each plant part contributes to a larger, intricate network of cultural symbols and metaphors that profoundly shape human understandings of self and world. This modularity of plant parts allows their meanings to be isolated, combined and reinterpreted in different contexts, resulting in a rich, multi-layered cultural meaning. Highlighting the complex relationship between humans and the plant world, the article shows how 'phytopoetic resonances' – the recurring metaphorical use of plant parts in literature – emphasise the critical role of language and culture in shaping our perceptions of botanical life.

Birgit Schneider's article adopts a media theory perspective to revisit the historical discourse surrounding plant communication and discusses contemporary interfaces that transform plants into mediums of artistic expression. Drawing on Rosa's concept of resonance, which denotes an empathic engagement in which entities respond to one another in a meaningful, reciprocal way, the article explores whether mutual understanding, construed as resonance, can be achieved between humans and plants. The article pays particular attention to the concept of plant communication in both scientific research and artistic practice. One of the central critiques of the article is the role of technology in mediating our understanding of plant communication. While technology allows humans to detect and interpret signals from plants that would otherwise be imperceptible, it also shapes and limits the ways in which we understand these signals. When plants are featured in various interactive media installations that allow humans to 'experience' plant communication, the resulting sound or visual output is often more reflective of the technological medium than the plant itself, suggesting that these mediated experiences may not provide a true understanding of plant communication, but rather a technologically constructed interpretation. The article advocates a more critical and reflective approach to the study of plant communication, one that recognises the limitations of human perception and the complexity of interspecies interaction. The

question of whether the resonance we seek with plants is really about understanding them on their own terms, or whether it is more about satisfying human needs for connection and meaning in an increasingly mediated world, remains central to the study of plant communication and interspecies understanding.

Nick Enright's article explores the ramifications of colonial botany. The concept of 'interspecies entanglements' is used to analyse the complex power dynamics, knowledge transmissions, accumulation practices, commodification processes and desires implicit in the colonial discourse on plants. The article focuses on the essay 'On the Bread Tree' (1784) by the German naturalist Georg Forster. Forster's essay, the result of his involvement with Captain Cook's voyages, aimed to provide a comprehensive understanding of the breadfruit tree. At the same time, Forster aimed to transcend the romanticised narratives that had dominated European discourse, portraying the breadfruit tree through a lens of idealisation, symbolising abundance and paradisiacal attributes while overshadowing the agency and knowledge systems of Indigenous peoples. The article argues that Forster's text, while attempting to dispel misconceptions, nonetheless reflects hierarchical and Eurocentric paradigms. Despite Forster's efforts to present a more nuanced understanding of Pacific cultures and their relationship with the breadfruit tree, the imperial agenda of colonial botany persisted, exemplified by the expeditions led by Captain Bligh, which sought to exploit the economic potential of breadfruit for European benefit. The trajectory of breadfruit in colonial discourse reveals the intertwined narratives of science, culture and power during European imperial expansion and the era of colonial botany. It serves as the antithesis of a resonant relationship with the plant world.

Hannes Bergthaller's article offers a re-examination of Aldo Leopold's *A Sand County Almanac* as a cornerstone text within modern American environmentalism. The *Almanac* represents a radical departure from colonialism's utilitarian examination of the human-plant relationship. The idea of 'biotic citizenship' emerges in Leopold's narratives, which illustrate what it means to care for plants as fellow citizens. These narratives are consistent with an ethics of plant care that emphasises a reciprocal relationship in which both parties influence and shape each other. The article suggests that Leopold's land ethic advocates seeing humans and other creatures as citizens of the land community, a notion that goes

beyond purely instrumental views of nature. Understanding Leopold's land ethic requires recognising the importance of resonance – a reciprocal interchange in which both parties are shaped and constituted by their interaction, as defined by Hartmut Rosa. Leopold's narratives in *A Sand County Almanac* illustrate this process of becoming attuned to the land, where people learn to care for the land and its plant inhabitants through active and engaged relationships. The article argues that Leopold's approach contrasts with the scientific reductionism of his time, as his advocacy of establishing resonant relationships is not just about appreciating the aesthetic or ecological value of plants but recognising them as active participants in a shared community. Bergthaller also recognises that there are challenges in interpreting Leopold's land ethic because of its metaphorical nature. While human-centred interpretations see ecological citizenship as a derivative of human moral obligations within a republican framework, holistic interpretations emphasise the collective well-being of the biotic community, either sidelining ethical obligations to non-human entities or overshadowing individual rights. In navigating these interpretations, the article argues for a reconceptualisation of ethics beyond anthropocentrism that promotes reciprocal relationships and mutual respect among all members of the biotic community.

Claudia Keller analyses the novel *Once There Were Wolves* by Charlotte McConaghy in the context of contemporary discourses on biodiversity conservation, in particular the rewilding of the Scottish Highlands through the reintroduction of wolves as apex predators. The protagonist, Inti Flynn, has mirror-touch synaesthesia, which allows her to physically feel what others feel. This heightened empathy connects her deeply to both human and non-human beings. Through Inti and her deep connection with nature, the novel explores the complexities of fostering a new relationship with the environment amidst the conflict between conservation scientists promoting rewilding and local communities dependent on sheep farming. Keller interprets the novel as an exploration of contemporary ecological debates, particularly rewilding, using the reintroduction of wolves as a metaphor for restoring balance and biodiversity. At the same time, the novel shows the potential dangers of resonance. The novel's twist – that it was Inti's sister Aggie, not the wolves, who were responsible for the violence – complicates the idealistic view of resonance and empathy. The article argues that despite the suffering and failures experienced by the characters, there is

a sense of hope as both human and non-human communities begin to adapt and find new ways of living together. The ability to resonate with others – whether human, animal or tree – has the potential to foster a deeper understanding and connection. At the same time, the novel offers a critical perspective on the potential risks of an overabundance of resonance, challenging prevailing fantasies of harmony.

Heather Sullivan's article examines the central role of plants in three science fiction novels: Ursula K. Le Guin's *The Word for World is Forest*, Alan Dean Foster's *Midworld* and Marcus Hammerschmitt's *Target*. Common to all three novels is the portrayal of plants as 'vegetable beings' that create or sustain interdependent, multi-species communities, and a critical view of human civilisations that reduce plants to mere resources for exploitation. Le Guin's novella is set on a distant, forested planet inhabited by an indigenous humanoid species. The narrative contrasts the indigenous, forest-dwelling Athsheans with colonising humans from Earth who seek to exploit the planet's resources without regard for the ecological consequences. Foster's *Midworld* similarly depicts an alien forest filled with predatory plants and animals. While Indigenous people have adapted to the forest, developing physical and emotional bonds with the plant life that surrounds them, 'giant' humans from an exploitative, technologically advanced society come to harvest a valuable substance produced by the trees, destroying the ecosystem. The forest itself is portrayed as a sentient entity that helps the indigenous people defend their world. Hammerschmitt's *Target* takes a darker approach, depicting a forest world that is hostile and predatory towards humans. The forest in this novel is a vast, interconnected organism with a form of sentience that perceives humans as a threat and eliminates them. Sullivan argues that, despite their different perspectives on human interactions with plants, these narratives offer insights into rethinking our relationship with the plant world, emphasising the importance of recognising the agency and significance of plant life and establishing a resonant relationship with the plant world.

Dürbeck and Lü's article presents an analysis of three German texts from the early 2000s: Marion Poschmann's 'Laubwerk. Zur Poetik des Stadtbaums' (2018), Judith Schalansky's 'Hafen von Greifswald' (2018), and Anna Ospelt's *Wurzelstudien* (2020), in the context of new nature writing (NNW) since the 2000s in the UK and Europe. The emergence of NNW has offered a departure from the escapist, heroic and

at times nationalistic tendencies of its original American counterpart. British NNW embraces diverse voices and addresses the global climate crisis while redefining 'wilderness' to include urban spaces. The emergence of German NNW is influenced by these transnational traditions, but also has deep roots in German cultural history, stretching back to authors such as Goethe and Alexander von Humboldt. The essay argues that German NNW is characterised by a language of resonance, a critical engagement with environmental issues and an ethically reflective stance. The article posits that, despite their distinct approaches, the three texts in question share a common thematic interest in nature, particularly trees and plants and converge in their pursuit of a 'language of resonance' between humans and the natural environment. Judith Schalansky's essay paints a stark picture of a landscape marred by pollution and environmental degradation. Ospelt employs diverse methods to establish connections with nature while Marion Poschmann explores the multifaceted significance of urban trees from cultural and ecological perspectives. While addressing pressing ecological concerns through meticulous observation and poetic perception, these texts also demonstrate a renewed appreciation for the natural world and a deeper understanding of our place within it.

Gabriele Brandstetter's article explores the complex relationship between humans, plants and language in the context of the history of Western dance. The relationship between dance and plants is examined through linguistic and grammatical lenses. By looking at different prepositions – about, as, with and for – which are used to articulate connections, the article discusses the dominant representation of plants in Western dance history. Classical ballets such as 'The Nutcracker' emphasise the ornamental role of plants in enhancing human celebrations and social situations. The connection between humans and plants can be articulated through the preposition 'about'. Loïe Fuller's pioneering work in the early twentieth century, her 'Lily Dance', in which the dancer embodies the essence of a plant through movement and visual imagery, exemplifies the transformative power of dance; the preposition 'as' can be used to signify this process of transformation. The preposition 'for', which suggests a sense of participation, togetherness and coexistence between humans and plants, can be used to discuss contemporary dance projects such as Ruth Geiersberger's performance, where plants are recipients of care and attention. Brandstetter's article provides a

nuanced examination of the evolving dynamics between humans and plants in the context of dance, reflecting broader societal shifts towards ecological awareness and a reassessment of human-nature relationships in this genre. Emphasising the importance of acknowledging the biases and power structures inherent in our language, the article proposes a 'politics of resonance and prepositions' as a means of critically examining linguistic scales and power dynamics when discussing relationships between people, dance and plants.

In summary, the complementary perspectives on the language of resonance from literary, cultural and media studies may provide a more nuanced understanding of the interplay of human and plant responses as well the limitations of the interplay. The contributions in this Special Issue reveal the intricate relationships between humans and plants across different genres and explore how and under what conditions the radical ontological difference between humans and plants can be overcome and in what way a non-anthropocentric connection can be established. They present a multidisciplinary exploration of the concept of 'resonance' as a means to understand and describe the connection between humans and the plant world and advocate for a more equitable and ethical relationship with nature. We hope it promotes a deeper understanding of the many forms of communication and interdependencies between plants and humans and gives way to a broader 'grammar of the living'.

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