

Poetry as Plant Script: Interspecies Dialogue and Poetic Collaboration in the Northern Tablelands Region of New South Wales

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ABSTRACT

Advances in the science of plants increasingly reveal the sensitivities of vegetal life. Although characterised as contemporary neuro-botany, research into botanical percipience can be traced back at least to Charles Darwin and Jagadish Chandra Bose. Bose developed novel instruments to make visible the endemic semiosis of vegetal life, or what he termed *plant script*. Despite the thinking of Bose and Darwin, however, a prevailing zoocentric ontology continues to marginalise the capacities of vegetal nature and, what is more, contributes to aspects of climate change, species loss and biocultural disintegration. Set within the New England Tablelands of Australia and invoking principles of interspecies dialogue and poetic collaboration, this article investigates the potential of the creative arts to engage, evoke and elicit plant sensitivities. Rather than constructing them as objects of representation, I consider the possibility of creative exchange with plants in which plant script intergrades with the production of a text. Extending the notion of collaboration in the environmental arts to include vegetal being, the article draws in particular from ideas of agential realism to explore the potential of writing practices to initiate new social, biological, political and imaginative perspectives on flora.

KEYWORDS

Botanical poetry, Jagadish Chandra Bose, plant script, Les Murray, Judith Wright, Peter Skrzynecki, New England Tablelands

Developments in contemporary plant science continue to disclose the complex sensitivities of the vegetal world. Rather than passive constituents of the landscape, plants exhibit a range of self-determined behaviours, including learning, remembering, solving problems, making decisions based on prior experiences, interpreting sensory feedback in order to negotiate environments, assimilating information to enhance survival and fitness, and, even, enacting forms of altruism including care for kin (Gagliano, Grimonprez, et al.; Karban et al.; Trewavas). Unlike animals that must move to locate food, water and other resources, plants have devised evolutionary techniques to exploit the ubiquitous energy of the sun and, as a consequence, can remain anchored in place (Trewavas 543). The adaptive capacities of botanical life epitomise the emergence of intelligent behaviour in organisms without brains and, therefore, call into question the zoocentric, or animal-focused, paradigm of nonhuman intelligence (Mancuso and Viola 123-54). Although linked to the field of plant behaviour and cognition – “one of the most exciting new and fast-moving frontiers in plant biology” (Trewavas 549) – studies of vegetal sensitivity date back at least to Charles Darwin and Jagadish Chandra Bose in the late nineteenth and early twentieth centuries. In the final passages of *The Power of Movement in Plants*, researched and written with the assistance of his son Francis, Darwin postulated the existence of a root-brain “receiving impressions from the sense-organs, and directing the several movements” (573). Similarly attentive to the particular habitus of plants, Bose constructed laboratory instruments, famously the crescograph, to render visible their non-linguistic forms of communication – or what he called *plant-script* or *plant-autographs* (“Plant-Autographs” 546).

While a segment of contemporary science advances Darwin’s and Bose’s investigations of plant intelligence (for example, Gagliano, Vyazovskiy, et al.), the dominant paradigm, in sharp contrast, replicates a cerebrocentric hierarchy of the botanical as subordinate to the zoological. The neglect of flora, however, is not only endemic to scientific outlooks but extends also to social and cultural domains. Alarmed by the relegation of threatened floristic communities to the hinterlands of conservation discourse, biologists have popularised the idea of *plant blindness* to describe an inclination “among humans to neither notice nor value plants in the environment” (Balding and Williams 1192). As a tendency to overlook flora, to underestimate its global ecological significance, or to reduce it to an appropriable resource, plant blindness could reflect the physiological constraints of the human processing of visual information (Balas and Momsen 437). In view of the backgrounding of plants despite increasing evidence of their remarkable capabilities, this article considers the role of the creative arts in countering inattention to – and engendering appreciation of – botanical being-in-the-world, or what some commentators call *plantness* (Darley). Human-plant communication will be posited as a basis for interspecies collaboration in which botanical life is an agent, participant within, and contributor to the compositional process. Building on Bose’s concepts of vegetal signification, the notion of *plant script* will be interpreted from an agential realist standpoint that posits the inseparability of matter and meaning. The non-aural semiosis through which vegetal beings communicate fulfils the assertion that “mattering is simultaneously a matter of substance and significance” (Barad 3). What is more, the Northern Tablelands region of New South Wales, Australia – also

known as the New England Tablelands, a plateau stretching from the Moonbi Range to the Queensland border – provides the milieu for assaying the potential of poetry as plant script. The work of three contemporary poets – Les Murray, Judith Wright and Peter Skrzynecki – each having had a sustained connection to the Tablelands and adjacent areas, unveils three distinct modes of lyricising plantness.

While much of the poetry examined in this article was composed between fifty-five years – in the case of Wright’s *Five Senses* (1963) – and twenty-five years ago – Murray’s *Translations from the Natural World* (1992) and Skrzynecki’s *Easter Sunday* (1993) – the work as a whole, I argue, remains relevant to the context of recent plant science. In this regard, Wright, Murray and Skrzynecki demonstrate the ability of poets to observe vegetal being-in-the-world sensitively and open-mindedly and, therein, to antedate breakthroughs in scientific discourse through their powers of reflection, sensoriality and intuition. Building on the work of these three Tablelands writers, as well as British experimentalism, at the end of the article, I will briefly outline some of the compositional techniques I am developing in my own practice of poetry-as-plant-script in the region.

Contested Concepts: Vegetal Script and Human-Plant Communication

Through a systematic approach to plant sensitivity, Jagadish Chandra Bose ventured a critique of the rigid delineation of the natural world into inorganic, vegetal and sentient constituents. The Bengali biophysicist challenged the ambiguous semi-sentient standing of plants as lifeforms situated liminally between inorganic rocks and percipient animals. Early twentieth-century botanical thinking conferred the faculty of sensitivity, or irritability, to certain species – notably the sensitive plant (*Mimosa pudica*) – displaying rapid movement in response to environmental variables of light, air and touch (for instance, Blondeau in 1868). Synchronising to the temporal frame and perceptual ambit of humans, sensitive plants achieved distinct standing in the domains of biological science and popular culture. A revealing example of the latter is the ballad “The Sensitive Plant,” written by Percy Bysshe Shelley in 1820, in which the mimosa of the first quatrain “opened its fan-like leaves to the light, / And closed them beneath the kisses of night” (423, lines 3-4). Rather than attributing irritability to a circumscribed subset of the botanical kingdom, however, Bose was intrigued by the potential physiological correspondences between animals and plants. He conceded that “vegetable life has always appeared to us very remote, because that life is unvoiced. The plant, in its apparent immobility and placidity, stands in strong contrast to the energetic animal with its reflex movements and pulsating organs” (Bose, “Plant and Animal Response” 101). In statements such as these, Bose intimated an expansive conception of voice as a generalised corporeal presence in the world rather than as the vocal expression exclusive to human communication. Although appearing immobile and placid – and thus constituting the diametric figure of animality – the plant nevertheless transforms itself continuously in time and space.

Indeed, the problem is one of translating between timescales: often we can neither apprehend vegetal excitability in immediate terms nor comprehend the voicings of plants with any pretence of fluency. To this end, Bose developed apparatuses – namely the “resonant recorder” or “automatic plant recorder” – to schematise the responses of different species to stimuli (“Plant-Autographs” 546). On a smoked glass plate – the index of the plant script – a lever traced the excitation differentials of specimens wired to electrodes. The biophysicist estimated that some vegetal participants in the experiment – especially members of the *Biophytum* genus – were eight to ten times more responsive to stimulation than human subjects (547). Rendering perceptible the meanings transmitted via internal electrical signalling, Bose suggested that a plant expresses its experiential states through energised outward gesticulations, just as an animal reacts to shock through vocal or visceral signs: “if it has a voice, by a cry; if dumb, by the movement of its limbs” (“Plant and Animal Response” 102). In an address “Literature and Science,” delivered in 1911, he speculated that vegetal script – if disclosed through such means – would disclose the inner lives of plants, which otherwise remain opaque to everyday apprehension. Even if expressed in a comprehensible form, however, the lingua of botanical life would need to be acquired through due diligence: “We might therefore have detected the internal condition of the plant, if, by some inducement, we could have made it write down its own responses. If we could once succeed in this apparently impossible task we should still have to learn the new language and the new script” (*Sir Jagadis Chunder Bose* para. 3, sect. “Unvoiced Life”).

Notwithstanding a utopianistic faith in technological intervention and the evocation of the trope of nature as a decipherable enigma – as a cryptogram to be unravelled or text to be interpreted (Merchant 146) – Bose’s botanical imagination recognises agency within plants as writers-signifiers transcribing, in their own patois, the nature of their being-in-the-world. His most arresting contention, however, is that vegetal script is the innately *unscripted* and autopoietic expression of plants enacted by – rather than imposed externally upon – them. Accessing the vocabulary of plantness, moreover, necessitates the devotion of the perceiving subject for whom it is unfamiliar; of course, the botanical raconteur will neither speak nor scriben in comprehensible syllables, words, sentences or other grammatical structures. The plant will neither cry nor susurrate, as a disembodied voice absent of tongue, lip and palate. In other words, reading vegetal lingua – and hearing botanical voices – involve relinquishing resolute preconceptions of language while reorienting oneself temporally to the task (Gagliano, Ryan and Vieira). In this regard, with a hint of hyperbolic flourish, Bose likens plant script to the Hindi and Pali alphabet, bearing “a certain resemblance to the Devanagari – inasmuch as it is totally unintelligible to any but the very learned!” (*Sir Jagadis Chunder Bose* para. 3, sect. “Unvoiced Life”). In addition, for the biophysicist, vegetal expressiveness – the narrativisation of experiences by the plant-agents themselves rather than by human writers or storytellers monologically – intensifies during moments of “life-tremulousness” and “death-spasm” marked graphically by the intensification of electrical responses. Bose suggests that the multifaceted inner lives of plants exceed the wildest suppositions of writers – maybe like Shelley – who have attempted to lyricise botanical being-in-the-world: “May it not be said that this, their story, has a

pathos of its own, beyond any that the poets have conceived?” (*Sir Jagadis Chunder Bose* para. 2, sect “The Plant’s Response”).

From a staunchly rationalistic standpoint, the notion of plant script could indeed ring as absurd, contrived, technologised, anthropomorphic or invariably entangled in Ruskinian affective fallacy, that bugbear of ecocritical discourse (for example, see Evernden). Even so, the alternative is far from heartening. Excluding other-than-humans from the overly-rarefied domains of writing, language and communication risks enshrining human exceptionalism as inexorable during an era of escalating anthropogenic impacts on natural (and cultural) environments. If Bose’s principle of vegetal script and the sympathetic notion of human-plant communication seem abstruse, culpability could be laid on popularisations such as *The Secret Life of Plants* (Tompkins and Bird), published originally in 1973. The account propagated Bose’s investigations to a broad audience but, simultaneously, obscured the actual potential of human-plant dialogue through its pretence of New Age spiritualism. Complementing Bose’s assertions while counterbalancing the debasement and trivialisation of vegetal intelligence (as in Firn), the field of phytosemiotics explores the meaning of sign processes within and between plants (Kull) as well as principles of distributed intelligence (Ryan, “Passive Flora?” 109–10). The ecocritical idea of *phytographia*, additionally, denotes the interface between the inscriptions of plants in the world and the residues of botanical lives in literary productions (Vieira). All of these contemporary frameworks, however, unlike Bose’s fervent enquiry, share a certain restraint when it comes to human-plant discourse. That plants communicate with plants and other nonhuman organisms via mycorrhizal networks is well-established (Barto et al.; Gorzelak et al.). The transmission of chemical messages between trees is a basis for synchronous transactions in forest ecosystems, including mast fruiting and reduced herbivore populations (Baldwin and Schultz). In order to acquire fitness-related advantages, plants monitor short bursts – or “soliloquies” – of volatile organic compounds (VOCs) released by neighbouring species assailed by herbivores or pathogens (Heil and Adame-Álvarez). To be certain, botanical volatiles have been described by scientists as a “language” involving a syntax regulated by “which compounds are produced when, and in what physiological and ecological contexts” (Raguso and Kessler 28). Rather than metaphorical excess, human-plant communication takes place on an unmediated corporeal basis beyond the delimitations of what is prescribed normatively as language.

Plant Script, Mode I: Direct Address

If plants exchange information between themselves and with other organisms, then it is reasonable to expect that they are capable of doing the same with us – and, conversely, us with them. Similarly, volatile organic compounds (VOCs) might instigate adaptive responses in other plants and non-plant companions alike. If vegetal life communicates with the human world, then, it should be possible to detect semiotic resonances – plant scripts – in the interstitial spaces between the cognizant vegetal body and its biotic or abiotic environmental matrix. In addition to a scientifically-inflected

approach to vegetal communication, however, there are the vital Indigenous traditions of human-plant concourse to take into account in terms of interspecies dialogue and lyrical collaboration (for instance, Clarke 23-33; Geniusz and Geniusz). In “Naanabozho and the Squeaky-Voice Plant,” a traditional narrative of the Anishinaabe people of the Northeastern Woodlands of North America, clubmosses (Family Lycopodiaceae) impart virtues to humanity, including awareness of the perils of hubris, the importance of the survival of all beings for ensuring balance, and the prevention of madness and ill behaviour through botanical medicines (Geniusz and Geniusz 28). In another Anishinaabe story, *gaawaandag*, the spruce, and *zhingvaak*, the white pine, converse with birds and compassionately offer shelter to other creatures (Geniusz and Geniusz 79). In the Southern Hemisphere, the Aboriginal Australian people of the Top End of the Northern Territory regard the rustle of the wind through the beach sheoak (*Casuarina equisetifolia*, also known as the whistling tree) traditionally as a reassuring voice lulling people to sleep (Clarke 26). The Potaruwutji of the south-east of South Australia, moreover, understand sacred trees as impregnated with spirits who communicate through the abrasion of overlapping branches (Clarke 27).

Whereas some epistemologies promulgate reticence or scepticism towards human-plant communication, Indigenous narratives have for millennia recognised the botanical world as endowed fully with voice(s). This consideration provides a segue to the poetry of Les Murray who, although not of Aboriginal heritage, integrates aspects of Indigenous botanical knowledge, especially as encoded in plant names. His polyvocal volume *Translations from the Natural World* (1992) dramatises the experiences of figs, bushes, sunflowers and fruits – as well as eagles, lyre birds, echidnas, butterflies, sea lions, ticks and, even, DNA – who utter verse directly in the first (plant) person. More specifically, Murray’s sonnet “Strangler Fig” (17) invokes the Aboriginal – possibly Worimi of coastal NSW – nomenclature for *Ficus watkinsiana* (*Guugumbakh*) in the second line. The poem particularises the corporeality of figness, for instance, in the “muscling,” “luscious fat” and “shade-coldest needs” of the plant persona (Murray 17, lines 5, 7, 9). Despite the brooding stigma of affective fallacy, adopting the voices of plants, attempting to translate them into human language, and identifying with the botanical world on an affective level are nothing unusual in contemporary Anglophone poetry. A notable case in point is Louise Glück’s *The Wild Iris* (1992), recipient of the Pulitzer Prize, featuring fourteen flower speakers who communicate their senses of isolation, disorientation and renewal. A trillium emerging in the spring, for instance, expresses its experience of awakening from wintry torpor: “When I woke up I was in a forest. The dark / seemed natural, the sky through the pine trees / thick with many lights” (Glück 4, lines 1–3). In a comparable style, one which centralises the liveliness of vegetal being, Alice Oswald’s illustrated volume *Weeds and Wild Flowers* (2009) progresses narratively through the enunciations of flora who address the reader without the pretence of the third-person objectivity. In the opening lines of the poem “Daisy,” the garrulous flower divulges its powers of multisensory cognition, explaining insolently that “I will not meet that quiet child / roughly my age but match-size / I will not kneel low enough to her lashes / to look her in her open eye / or feel her

hairy wiry strength” (Oswald 6, lines 1–5). The mode of direct address is also leveraged by Australian poet Michele Fermanis-Winward in one of her contributions to *New Shoots Anthology* (2017), a collection of poetry inspired by plants. Although the identity of the botanical subject remains concealed, the poem “I am more” makes use of the first (plant) person to arouse empathy for – and promote awareness of – the instrumentalisation of vegetal life: “I am more / than timber you desire” and, later in the poem, “Saws reduce me to bald slabs, / a blank to stamp your name upon” (Fermanis-Winward 85, lines 1–2, 12–13). Featuring a range of poets, this recent anthology highlights the diversity of approaches to – and interpretations of – plantness in contemporary poetry, some of which involves vegetal protagonists speaking for themselves.

While the flora of Oswald’s and Glück’s poetry is representative of the northern climes of Britain and the Northeastern United States respectively, Murray attends – though not exclusively – to the native plant life of northern New South Wales in the south-eastern vicinity of the New England Tablelands. The Australian poet and novelist grew up on a dairy farm in the town of Bunyah between Forster and Gloucester in the Manning River delta area of the state. After a number of years in Australian cities, he returned to the Bunyah farm to take up residence permanently (Ryan, “Sacred Ecology of Plants” 464). In addition to the strangler fig, other animated vegetal personae appearing in *Translations* include cockspur bush – presumably cockspur thorn, *Maclura cochinchinensis*, a thorny shrub native to northern NSW and typically inhabiting tropical forests – as well as the common sunflower and stone fruit, a generic term for members of the *Prunus* genus. Murray’s volume has been characterised as an attempt to translate nonhuman experience into human speak while preserving the position of animals and plants notwithstanding the constraints of language (Beer 319). The title of the second part – “Presence” – mirrors the importance Murray places on retaining the nonhuman position rather than enabling verse to subsume or appropriate it (Beer 319). By distorting aspects of meaning, diction, conjugation, punctuation, enjambment and rhythm, the poet gives prominence to the friction that results during the process of translating between worlds: “I glory centennially slow- / ly in being Guugumbakh the / strangler fig bird-born to overgrow” (Murray 17, lines 1–3). As translator and mediator, Murray preserves a sense of strangeness and difference, signifying that the intelligent, self-determined plant will not acquiesce completely to the writer’s art(ifice): “and I complete myself and mighty on / buttresses far up in combat embraces no / rotted traces to the fruiting rain surface I one” (Murray 17, lines 12–14).

The vegetal script of *Translations* thus consists of the first-person elocations of plants. Critics, including Murray himself, point out the work’s incantatory quality. In its second part, “shamanistic” interchange with the natural world provides the basis for flora to communicate through – and with – the writer (G. Clark 43). As an agent of translation deploying lyrical verse as his medium, the poet appears to revive totemistic principles endowing the botanical domain with the sensitivity and responsiveness required to dialogue with human subjects (Almon 123). In this regard, Murray characterises the text as “strongly sacramental or incarnational, stressing presence before

meaning. We know the things beyond things by contemplation” (qtd. in Almon 123). Above and beyond ontologies of neo-totemism and Christianity-inflected notions of divine immanence, an alternate framework for conceptualising the translational leitmotif of Murray’s work is supplied by Barad’s anti-reductionistic imbrication of “being, knowing and doing, of ontology, epistemology, and ethics” (3). For Barad, the term *intra-action* denotes the co-constitution of human and nonhuman agencies, which do not antedate – but concretise through – their entanglement (33). Barad’s reconfiguration of presence as radically relational provokes a new ontology of plants and other so-called *mute* or *immobile* nonhuman agents (perhaps fungi too). With reference to *Translations* and comparable first-person renderings of plant script, the voice of vegetal life becomes inextricably related, rather than oppositional, to lyrical poiesis. In this context, “Strangler Fig” both expresses and engenders presence in the slow yet progressive entanglement of the parasitic tree with other co-constitutive habitat elements. Vegetal presence, moreover, takes shape in the liberal spacing between lines and the movement of a single enjambed sentence across the fourteen-line sonnet form (Almon 124). Prepositional phrases and syntactic perturbations evoke the physical interdigitations between the fig and other environmental things: trees, rocks, abandoned machinery (Almon 124). Murray’s attention to the sensory worlds of vegetal beings, consequently, renders plant script accessible to the intellect and present to the imagination.

Plant Script, Mode II: Corporeal Rhetoric

The previous mode of plant script involved the first-person address of botanical personae in poetry, as exemplified by selections from Murray’s *Translations*. In contrast, the second mode centralises the corporeal rhetoric – the embodied semiosis and sensory signification – of the botanical kingdom. Unlike the first, the second does not hinge on the vocal utterances of plants mediated conspicuously by the writer but, instead, embraces a vocabulary of botanical sights, sounds, sensations, fragrances, tastes, kinaesthesiac knottings, bodily propinquities and other unmediated – or less-mediated – relational responses (Plec 7). Rather than writing for the vegetal – or stirring indeterminacy as to *who* is really doing the writing – the poet narrativises the corporeal gesticulations of the plant in space and over time, as well as the *intra-actions* of human, botanical and other agents. The embodied script of the plant – the vibrant multisensory resonance of its being present in time and space – enables the poet, or other observer, to perceive its “body plan” (Baluška et al.), smell its olfactory signature, savour its gustatory virtues, feel its tactile contrasts and apprehend its acoustic emanations. The lived experience of the plant, thus, becomes a rhetoric – or script – of the vegetal body. The role of the poet is to textualise the sensory data and impressions acquired during the process of being-with botanical things. A corporeal rhetorics of the plant world enlarges the bounds of language to embrace the life-worlds of nonhuman others excluded from the dominant masculinist Western sphere of environmental discourse. Although not with nonhumans in mind per se, rhetorician Raymie McKerrow contends that “only by broadening the perspective will we come to an appreciation of the diversity of voices that represent the Earthbody” (320). An expansive model,

moreover, “forsakes oppositionality in favor of an all-encompassing perspective on the rhetorical act” (McKerrow 319), resisting hegemonic presuppositions that construct voice purely as a vocal phenomenon and, accordingly, deny it to nonhumans who obviously do not speak as we do.

Interestingly, the volatile organic compounds emitted by roots, shoots, leaves, bark, fruits and flowers correspond to the idea of a corporeal rhetorics of plants. As both a general language and specific dialect of vegetal life, the volatile spectrum fluctuates between individual species and, additionally, between populations and specimens (Trewavas 548). Where there is no physical contact, communication between plants depends on a language; VOCs are thought to supply the words constituting botanical vocabularies (Holopainen and Blande 17). The quantities and proportions – or *signatures* – of volatiles in the chemical bouquets generated by plants enable the individual to transmit information-rich signals, or *sentences* (Holopainen and Blande 18). Developments in plant-plant communication highlight the importance of VOCs to the transmission of altruistic messages from weakened to healthy plants (Holopainen and Blande 18). The mechanism of kin recognition, furthermore, enables plants to respond to volatile signals from wounded neighbours to enhance resistance to predators. Chemical diction, thus, ensures that altruistic cues are less likely to assist strangers and more likely to support kin (Karban et al. 1). Studies also point to self and nonself recognition in plants; roots react differently when encountering nonself root growth (Mahall and Callaway). The roots of the desert shrub *Ambrosia dumosa*, for instance, detect and evade nonself roots of the same species while *Larrea tridentata* roots inhibit *Ambrosia* and other *Larrea* root systems (Mahall and Callaway 874). In addition to plant-to-plant and within-plant communication, there are complex herbivore-induced volatile emissions as well as the visual and olfactory signals for enticing pollinators and dissuading predators (Schiestl). Even though the literature of human-plant chemical communication appears attenuated in comparison, a salient example is the chemistry of secondary metabolites. These compounds fortify plants from herbivores but also furnish a vast spectrum of medicinal substances of benefit to human health and wellbeing, and thus provide the chemical basis for the world’s herbal traditions (Wink).

The poetry of Australian author and activist Judith Wright exhibits a corporeal rhetorics of plants in its rendering of the sensory exchanges between the poet, flora, fauna and the inorganic environment. Whereas Murray’s process of translating between human and nonhuman languages is invariably mediated by the “sacramental poetics” of his Catholic faith (McInerney 216–25), Wright enacted a markedly different approach plants – and to Australian colonisation and the appropriation of Indigenous cultures more broadly – and, hence, her work inscribes a distinct environmental politics (Arnott). As a consequence, a politics of vegetal poetics in the Australian milieu raises the question of who should – or can – speak for plants holding deep cultural meanings for Aboriginal people. Born in 1915, Wright grew up fifty kilometres east of Armidale, NSW, on Wallamumbi Station and graduated from New England Girls’ School before moving to Sydney in 1934 to attend university (Clarke and McKinney 2). Although Wright, in all likelihood, would not have known of plant communication

through chemical compounds, her verse nevertheless demonstrates sharp awareness of vegetal being-in-the-world and calls attention to the corporeal articulations – the somatic scripts – of botanical life. In particular, Wright poeticised the local native flora (orchids, wattles, gum trees) of the New England Tablelands and surrounding regions, especially during the early years of her literary career. Poetry such as hers enables plantness – a quality of the natural world routinely peripheralised, backgrounded or othered – to register itself in human perception and, conversely, for perception to intergrade with botanical presence. What is more, her verse lyricises the idea of *plant-thinking* as the constructive dehumanisation and decentring of cognition, reconfigured through its encounter with vegetal ontology (Marder 10). Consider, for instance, “Phaius Orchid” from her volume *The Gateway* (1953). Also known as lesser swamp orchid, the endangered species, with only fourteen known populations, inhabits the paperbark forests in the coastal reaches located east of the Tablelands proper. The poem opens with an evocation of the habitat of the orchid and its physical transformation as the flower develops: “Out of the brackish sand / see the phaius orchid build / her intricate moonlight tower / that rusts away in flower” (Wright *The Gateway* 27, lines 1–4). The appearance of yellow venation on the inner sides of the sepals and petals, observed by Wright, conveys the impression of rusting away – decaying or senescing – while the orchid, in fact, remains fully alive and vibrant. Also of note is the poem “The Flame-Tree” – after *Brachychiton acerifolius*, the Illawarra flame tree or kurrajong – with its deep red flowers engulfing nearly the entire bodily form of the plant: “look how gloriously / that careless blossomer scatters, and more and more” (Wright *The Gateway* 36, lines 13–14).

The botanical subjects of Wright’s verse voice themselves through bodily scripts apprehended by the sense faculties of the poet and mediated to her readers. In other volumes (for instance, *The Two Fires*, 1955), she expresses the difficulty of comprehending the semiosis of the vegetal corpus and devising adequate verbal assemblages for evoking it. To this effect, “Nameless Flower” (*Five Senses* 98, originally published in *The Two Fires*) eschews precise nomenclature for a generalised portrait of a plant with carnivorous habits. Although apparently unaware of the identity of the species, Wright nonetheless supplies a trenchant characterisation of its morphology: “Three white petals float / above the green. / You cannot think they spring from it / till the fine stem’s seen” (*Five Senses* 98, lines 1–4). In the second stanza, the image of the flower as a whole crystallises further in the reader’s imagination. As such, plant being-in-the-world becomes liberated from the totalisation of technical naming and taxonomic method: “So separated each from each, / and each so pure, / yet at the centre here they touch / and form a flower” (Wright *Five Senses* 98, lines 5–8). The short haiku-like poem “Scribbly Gum,” moreover, suggests the opacity of plant script and narrates the poet’s inability to apprehend the life-narrative of the tree, notwithstanding her visual, haptic and mental exertions: “The gum-tree stands by the spring. / I peeled its splitting bark / and found the written track / of a life I could not read” (Wright *Five Senses* 99, lines 5–8). An analogous kind of plant presence is evident in “Gum-Trees Stripping,” particularly in the phrases “stained and sculptured curve of grey,” “charcoal scars of fire” and “hermit tatters of old bark” (Wright *Five Senses* 100, lines 18, 19, 21). Both poems specify the semiosis of Australian eucalypts

decorticating, or shedding skin instead of leaves, as the deciduous trees of northern climes do. Other poems from *The Two Fires* implore the reader to entrain to “this thorny, / delicate, tender / speech of the flower ... this various speech / that covers over / the gravel plain / like the words of a lover” (Wright *Five Senses* 122, lines 9–11, 13–16). Ultimately, however, Wright appears to abandon the viability of either deciphering the embodied rhetoric – the corporeal *speech* – of vegetal life as a text or translating plant presence satisfactorily into human lingua. What emerges in their place are *phytographia* (Vieira) and *phytophilia*, or the love of plants (Marder and Vieira). Wright’s interweaving of botanical rhetoric, poetic emotion and literary production thus generates a space for vegetal difference without marginalising the corpus of the plant, for instance, as an aestheticised or sentimentalised object.

Plant Script, Mode III: Botanical Trace

In the third mode of plant script, vegetal life neither speaks in the first person nor potentiates verse through its corporeal propinquity. Instead, the material or immaterial trace – residue or impression – of the plant endures both in the environment that is rendered in the narrative and, thus, in the architecture and content of the narrative itself. Rather than restricted to the natural world, the idea of *environment* at the centre of my articulation of the third mode encompasses the physical, psychological, spiritual, cultural, social, political, mnemonic and other terrains upon which the absent plant imprints the semiotics of its being-in-the-world. From a theoretical standpoint, Jacques Derrida’s “metaphysics of presence in language” (Friedberg 185) and levelling of the Saussurean hierarchisation of speech over writing are instructive. In Derrida’s critique of Western logocentrism, drawing upon the French denotations of the term, *trace* refers to “track, footprint, imprint,” or the indication of an “anterior presence” or origin (Spivak xv). The trace, or imprint, of that which is absent – of that which is unavailable in its ontological fullness – innately determines the structure of the sign (Spivak xvii). A sign, therefore, is contingent upon the spatio-temporal trace of other signs; every sign is stratified insofar as its meaning depends on other sign-traces that diverge from it in both time and space (Bradley 70). According to Gayatri Spivak, furthermore, trace is “the mark of the absence of a presence, an always already absent present, of the lack at the origin that is the condition of thought and experience” (xvii). In *Of Grammatology*, Derrida explains his concept of trace as “not only the disappearance of origin – within the discourse that we sustain and according to the path that we follow it means that the origin did not even disappear, that it was never constituted except reciprocally by a nonorigin, the trace, which thus becomes *the origin of the origin* [emphasis added]” (61).

In this way, Derrida outlined a generalised concept of writing as the edifice inhabited by trace (Bradley 65). Circumventing the binarisation of speech as natural and writing as derivative, the French philosopher contended that all spoken and written signs belong within the umbrella of writing. Following Derrida, then, it might be possible to think of plant script as constituted triadically by modes of direct address, embodied rhetoric and the trace of

botanical life absent in its fullness. Decoupled from its opposition to speech, writing becomes inclusive and dehumanised enough to encompass the endemic scripts of other life forms. Rather than a backgrounded element of poetic narratives, vegetal trace accordingly acquires significant potential. In particular, the notion of botanical trace resonates vigorously with regard to the extinction of plant species and writing as an intervention into the loss of other-than-human voices (for example, Buell). As summarised in *The State of the World's Plants Report* (Kew), one in five plant species on earth is approaching extinction. Forty percent of Australian forests have been cleared, with the highest national rates of removal since 1970 occurring in south-eastern Queensland and northern New South Wales (Bradshaw 109). The New England Tablelands includes three World Heritage Areas and forms part of the UNESCO-designated Gondwana Rainforests; high plant diversity and endemism have historically characterised the region (NSW Office of Environment and Heritage “New England Tableland”). Like many places in Australia, however, dramatic change beset the Tablelands after colonisation, and had a severe impact on its natural landscape. Since the nineteenth century, the vegetation of the central and eastern Tablelands has been mostly cleared and in other areas less than ten percent of the original woodlands remains (Butzer and Helgren). The Tablelands, thus, is a locus – and a dialectic – of botanical presence and absence. Engaging its plant script through poetry necessitates, to some extent, the writer’s consciousness of the scale and severity of ecological loss. For instance, the trace of vegetal life manifests frequently – as ideas, emotions, affectivities and so on – in the personal and collective memories of the people impacted by the degradation of a region’s floristic diversity (for an example from Western Australia, see Ryan “Where Have All the *Boronia* Gone?”).

The poetry of Peter Skrzynecki gives form to the idea of botanical trace in the Northern Tablelands context. Born near Dortmund in Germany, he migrated to Australia in 1949, completed a Bachelor of Arts at the University of New England and, from 1967–68, taught at Jeogla, east of Armidale, where he later met Judith Wright (Skrzynecki “Ulysses in New England” 101). “Flowering Red Gum” from his volume *Easter Sunday* (124) is both an encomium to the incomparable visual character of the blossoming tree and an elegy of the seasonal change made discernible through its somatic transfigurations over time. The poem commences in the present tense, contrasting “the soft red crowns / of each blossom” to “the pale-green centres / that dry and darken” (Skrzynecki, *Easter Sunday* 124, lines 1–2, 4–5). The subsequent three stanzas, however, switch completely to the past, thus heralding the movement from botanical presence to absence with human memory as the mediating formation. The speaker “searched the bush” for comparable hues but nothing equalled “those red crowns / that wattlebirds / feasted on each morning” (Skrzynecki, *Easter Sunday* 124, lines 7, 14–16). The poem concludes with the trace of the gum tree in “the grey earth / where its leaves had fallen” (lines 19–20). Even the presence of dead plant matter – fallen leaves – is emptied from the final lines, leaving the reader with only a track, an imprint, of the original pulsating vegetal sign. With a similar progression from presence towards remembrance, the poem “Silky Oak,” named after *Grevillea robusta*, narrates the corporeal articulations of the large tree and, specifically, its *intra*-actions with shrieking lorikeets that fuss, quarrel

and jockey for nectar. The final lines revert to the past as the speaker recollects the sensory presence – the “honeyed silence” – of the silky oak the night before, as both he and the birds slept (Skrzynecki, *Easter Sunday* 112, line 28). Despite its centralisation of a so-called invasive tree, a species of the *Erythrina* genus, “Coral Tree” from the collection *The Aviary* alludes to the “traces of shed pollen” and “a feeding ground / Bare with thorns” (Skrzynecki, *The Aviary* 50, lines 11, 13–14). As in “Silky Oak” and “Red Flowering Gum,” the poem begins with the *plantness* of the plant – the immediacy and particularity of its being – but switches to the trace of absence, that is, the residue of botanical presence/absence persisting in landscape and language.

Writing the Tablelands: Implications for the Creative Arts

The previous sections articulated three modes of vegetal script, providing potential frameworks for regionally-based creative collaboration with the botanical world that takes seriously the prospect of interspecies communication. Pushing against the logocentric alignment of voice with orality, I described the vegetal modes of writing as *direct address*, *corporeal rhetorics* and *botanical trace*. Rather than speculative reverie, pathetic fallacy or barefaced metaphorisation, plant script becomes available to us empirically through practices of listening to, looking at, feeling, tasting, smelling and walking in plant habitats. The poetic field-based approach that I am formulating through examples from Murray, Wright and Skrzynecki problematises the rarefication of intelligence as the exclusive attribute of mobile beings with brains and, thus, resists zoocentric ontologies. The view that the properties of the nervous system are *a priori* those of cognition has been critiqued by theorists as brain-centrism, cerebrocentrism and neurocentrism (A. Clark). Daniel Dennett and Marcel Kinsbourne (185) further characterise the perspective – which debars plants and other non-brained, non-nerved organisms from the province of intelligence – as Cartesian materialism. Downgrading the actual capacities of vegetal nature for communication, sensing and behaviour, I assert, can prove detrimental to the environment (plants) and to creativity (poetry). The pervasiveness of plant blindness – the inability to recognise vegetal lives and their complexities – could be one of many factors contributing to the exponential species loss and biocultural disintegration that ever more characterises the Anthropocene. While countering the perception of vegetal nature as mute substance barren of semiosis – as mechanically acted upon rather than acting – the three modes also resist the Romantic aestheticisation of plants. In this regard, an *antho*-centric focus on flowers in poetry tends to supersede the vital below-ground networks and the less visually-compelling trunks, stems and leaves of plants (Ryan *Green Sense*).

Considering the critique of cerebrocentrism and aestheticisation, then, what practices would form an approach to writing poetry that decentres the writer and weighs the potential of lyrical collaboration through interspecies dialogue? The ensuing discussion briefly specifies three methods, namely, *sensory extension* (or gesture), *place inflection* (or topaesthesia) and *plant-as-co-author*. While I recognise that these methods blend and cross-fertilise, they do

represent three discrete approaches to composing poetry about – and, more importantly, with – botanical life. In particular, topaesthesia necessitates sensory extension into place as the substratum of one’s writing practice. Not only do we sense them through our allocentric – visual and auditory – and autocentric – tactile, gustatory and olfactory – capacities, plants send and receive information about their environments, including about us, through complex sensory vocabularies (Chamovitz). While lacking vocal address – or, at least, a form of address perceptible to human ears – plants exploit sound ecologically. The roots of the garden pea (*Pisum sativum*), for instance, locate water sources by sensing the vibrations of water moving inside pipes (Gagliano, Grimonprez, et al.). Plants perceive a broad range of cues – from geomagnetic fields to moisture differentials – that guide them in moving their roots to sources once water is identified (Gagliano, Grimonprez, et al. 2). The critical role of sense, therefore, calls attention to the consequences of sensorial pollution of the environment. If plants have a well-developed capacity to apprehend the world, then one method of engendering human-plant dialogue should be via multisensorial exchanges that can disclose the corporeal rhetorics of botanical lives. As a case in point, mountain angelica or broad-leafed carrot (*Gingidia rupicola*) is an endangered aromatic perennial herb restricted to Point Lookout in the New England National Park (Department of the Environment and Energy). My tactile and olfactory gesture towards *G. rupicola* would need to be adapted sensitively to the threatened condition of the species in order to minimise the physical impacts of my own poetic concerns.

Bodily extension, nevertheless, is integral to lyricising botanical being. The sensory feedback of the plant can figure recursively into textual composition. Sensory inquisitiveness into vegetal alterity – in the above example, the textured fragrance of mountain angelica – thus becomes an “attention that takes care of others” (Nancy 20) instead of an appropriative or injudicious act. A related method of a poetry-as-plant-script praxis would engender place inflection, or topaesthesia as “the sixth sense, an internal compass and map made by memory and spatial perception together” (Solnit 203). Aware of the perils of extracting the plant – or, worse yet, its flowers or other visually pleasing anatomical parts – in reductionistic terms from the ecological milieu that nurtures it, the writer attempts to preserve within the narrative the knotty soil-laden imbrications between plant and place. Indeed, this aspiration makes good artistic and scientific sense. Research demonstrates that the fitness of a plant is “inextricably linked to the specific environment in which it operates” (Trewavas 542). A creative practice based on vegetal percipience – not limited to the one outlined in this article – requires an understanding of the environment in which the plant has developed. Intelligence is connected indissolubly to the place in which it is expressed (Trewavas 543). More precisely, vegetal life is enmeshed in two environments, above and below ground, each with certain constraints that require intelligent negotiation, decision-making and calculated risk-taking. Additionally, the emplacement of plants counterbalances the impulse to generalise their lives through taxonomic discourse and, notably, through Linnaean nomenclature that provides us their names but tells us less about their inner worlds and outer relations. Suffused in the percipient aura of the plant, the botanical imagination of the poet takes shape within the biocultural

demarcations of place. Such awareness imparts a grounded topaesthesiac quality to poetic investigation of flora. Conversely, the living plant embedded within place lends form to composition. In the contemporary radical landscape tradition, for example, the prominent use of spacing, enjambment and punctuation approximates the habitats of botanical subjects within the structure of the poetry itself (see, for instance, Bletsoe 99–111).

In my practice of botanical writing, the New England Tablelands provides the broad context for poetry-as-plant-script within which are various subregions, locales, habitats, microclimates and sites modulating the life-worlds of plants. The botanical communities of the bioregion include open forests, woodlands and heathlands with high diversity and endemism. About one-third of the seventy species of *Eucalyptus* found in the Tablelands are endemic or nearly endemic (NSW Office of Environment and Heritage “New England Tableland”). Creative engagement with the flora of the bioregion, thus, requires understanding micro- and macroscopic patterns of ecology, history and experience within place(s). I suggest that, through this aggregation of sensory extension and place inflection, it is reasonable enough to approach the plant as a co-author – a contributor to the poetry written *about* and *with* it. No longer backgrounded as an element of the landscape rendered by the writer, the plant as collaborator adds its script – at least through the three modes articulated previously – to all stages of textual creation. Notwithstanding its radical refiguration of literary authorship, the notion of land, plant or animal as collaborator and co-author – though indeed rare – is not unprecedented. As a case in point, a recent article on the *mathematics* – patterns, relationships and rhythms of time and space – of the Yolŋu people of North East Arnhem Land in northern Australia cites the lead author as Bawaka Country, followed by the human contributors to the writing: “Within Yolŋu ontology, relationships between humans and more-than-humans co-produce a world which is living and interconnected, and which admits no ontological division between humans and their environments or ecologies” (Bawaka Country et al. 2). The foremost position of Bawaka reflects not only the respect of the human collaborators but also the insights and realisations mediated by country. In this light, the learning, knowledge and understanding enabled by the vegetal kingdom renders plant collaboration a practicable approach to decentring the human from authorial singularity and poetic monologues.

Although the verse of Murray, Wright and Skrzynecki reflects sensory extension and place inflection – especially as formulated in the Tablelands bioregion – their work is less effective at revealing what a text co-authored by a plant would look like. While a significant formation within their poetry, the presence of the plant remains – at least to some extent – latent, implied and under-actualised. Aside for examples such as the abovementioned article written about – and with – Bawaka country, there are few well-theorised attempts to co-author anything with other-than-humans, despite, for instance, the long tradition of percipient plants in the contemporary Anglophone canon (Ryan *Plants*). What poetic techniques could be employed not only to represent but to generate dialogue with the vegetal world in a regional context? Bearing this question in mind, I have been experimenting with collaborative compositional methods in the Tablelands, two of which I

will outline briefly: the chiasmatic sonnet and the installation poem. The first form has been inspired by Murray's reshaping of the traditional sonnet in "Strangler Fig" from *Translations from the Natural World* (17). In his poem, double-line spacing in conjunction with one enjambed sentence progressing across fourteen lines structurally parallels the elongated growth habit of the fig as it envelops a host tree. The chiasmatic sonnet I have developed is potentially more appropriate than other forms to poeticising *with* the botanical denizens of the Tablelands gorge country, including fairy bells (*Sarcobilus ceceliae*), an orchid species limited to vertical rock faces and cliffside habitats at higher elevations such as at Dangars Gorge near Armidale, NSW. The splitting of the sonnet convention down the middle adequates the chasmic environment that the orchid inhabits. At the same time, the prominent partitioning of the mise-en-page opens space for interspecies exchange mediated by contrapuntal movement between left- and right-hand sectors of text. Each divided line of the poem comprises five syllables, specifically two true iambs (consisting of one unstressed syllable and one stressed syllable) and one half, or incomplete, iamb (one unstressed syllable only).

Originating in the Greek *chiasma* denoting two things situated crosswise – and homonymic with *chasma*, for a gulf or yawning hollow – the term *chiasma* contains anatomical and morphological resonances, in terms of the crossing over of two parts, as in optic nerves in the brain and chromosomes during meiosis. This sonnetic interpolation approximates the gorge networks that underpin the botanical landscape and mediate the imbrications between plants and people epitomised, as an example, by processes of respiration. What is more, the sonnet enables a plurality of reading orientations, for instance, traditionally in a sequential fashion from left to right across the chasm but also diagonally – that is, chiasmatically – from half iamb to half iamb, and onward. New meanings, thus, emerge through plant-non-plant polyvocality, driven graphically by the growth habit of the sonnet. To be certain, this method finds precedents in British experimentalism, especially the Poetry Revival Movement of the 1960s and '70s, including writers such as Bill Griffiths and Richard Caddel) who tested the limits of form (for an overview, see Tarlo). More specifically, the chiasmatic sonnet integrates the sonic qualities of plants in the spirit of Basil Bunting's sequence "Sonatas" and, notably, his long poem "Briggflatts" from 1966 (Bunting 41–62). The second approach I will allude to in closing this article is the installation poem. Released from the conventions of the A4 page and its alternates, this large-scale poetic form generates a textual ecology based on immersion in the arboreal systems unique to the Tablelands, prominently the ancient Gondwana beech rainforests. I emphasise that the method does not involve the simple blowing up of the font size of an existing botanical poem in order to align the text with the scale of the gallery environment. In contrast, the installation poem is an intrinsically long form using normal twelve- or fourteen-point font sizes to produce a complex textured experience of looking at beech trees – rendered as a presence in words – from distal and proximal perspectives. Such a "typographical/topographical ecology" generates "an environment of which reading is the act of inhabitation" while engendering empathy as "the ability to immerse oneself in the phenomenon"

(Scott 286–87). These methodological directions and others will be developed in my subsequent creative exploration of the Tablelands.

Conclusion

This largely conceptual paper investigated the potential of literary practice to engage, evoke and elicit the sensitivities of vegetal life. Departing from the construction of plants as objects of literary representation, I considered the prospect of creative exchange with vegetal life in which plant script intergrades with the traditional production of a text. Extending collaboration in the environmental arts to include nonhuman life (Grande 110), I drew in particular from Barad's *agential realism*, Bose's *plant script*, Derrida's *trace* and the science of plant intelligence, or neuro-botany, in highlighting the potential of phytopoetics to provoke new biological, social, political and imaginative perspectives on flora. In closing, I echo the sentiment of environmental artist Mario Reis, who observes that the rivers he features in his site-based installation work "leave their imprint on the cotton and show us how they are ... my work is not detached from nature's processes" (qtd. in Grande 107). As Reis elaborates further, "my role as an artist is neither as primogenitor nor postgenitor ... the main thing, to be even more explicit, is the interaction with the river, the collaboration between us" (qtd. in Grande 110). Although plants do not speak in the linguistic terms familiar to us, they nevertheless communicate, give voice and signify through other sensory formations perceptible to our faculties. Engaging with the semiosis of plant life underscores the importance of *phytopoetics* in evoking new biosocial possibilities and a politics of the future that more fully recognises plants as perceptive co-contributors to the world(s) all beings inhabit.

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Works Cited

Almon, Bert. "Fullness of Being in Les Murray's 'Presence: Translations from the Natural World'." *Antipodes* 8.2 (1994): 123–30.

Arnott, Georgina. *The Unknown Judith Wright*. Crawley, WA: University of Western Australia Publishing, 2016.

Balas, Benjamin and Jennifer Momsen. "Attention 'Blinks' Differently for Plants and Animals." *CBE: Life Sciences Education* 13.3 (2014): 437–43.

Balding, Mung and Kathryn Williams. "Plant Blindness and the Implications for Plant Conservation." *Conservation Biology* 30.6 (2016): 1192–99.

Baldwin, Jan and Jack Schultz. "Rapid Changes in Tree Leaf Chemistry Induced by Damage: Evidence for Communication between Plants." *Science* 221.4607 (1983): 277–79.

Baluška, František, et al. "Neurobiological View of Plants and Their Body Plan." *Communication in Plants: Neuronal Aspects of Plant Life*. Eds. František Baluška, Stefano Mancuso and Dieter Volkmann. Berlin: Springer-Verlag, 2006. 19–35.

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

Barto, Kathryn, et al. "Fungal Superhighways: Do Common Mycorrhizal Networks Enhance Below Ground Communication?" *Trends in Plant Science* 17.11 (2012): 633–37.

Bawaka Country, et al. "Morrku Mangawu - Knowledge on the Land: Mobilising Yolŋu Mathematics from Bawaka, North East Arnhem Land, to Reveal the Situatedness of All Knowledges." *Humanities* 5.3 (2016): 1–13.

Beer, Gillian. "Animal Presences: Tussles with Anthropomorphism." *Comparative Critical Studies* 2.3 (2005): 311–22.

Bletsoe, Elisabeth. *Pharmacopoeia and Early Selected Works*. Exeter: Shearsman Books, 2010.

Blondeau, M.C. "On the Irritability of Plants." *The Annals and Magazine of Natural History, Including Zoology, Botany, and Geology*. Eds. Charles Babington, et al. Vol. 1. London: Taylor and Francis, 1868. 33–35.

Bose, Jagadish Chandra. *Sir Jagadis Chunder Bose: His Life and Speeches*. Ed. Bryan Ness. (2007). 18 Apr. 2017.
<https://ia600500.us.archive.org/10/items/sirjagadischunde22085gut/22085-8.txt>.

---. "Plant and Animal Response." *Proceedings of the Royal Society of Medicine* 13 (1920): 101–28.

---. "Plant-Autographs and Their Revelations." *Nature* 93.2334 (1914): 546–50.

Bradley, Arthur. *Derrida's of Grammatology: An Edinburgh Philosophical Guide*. Edinburgh: Edinburgh University Press, 2008.

Bradshaw, Corey. "Little Left to Lose: Deforestation and Forest Degradation in Australia since European Colonization." *Journal of Plant Ecology* 5.1 (2012): 109–20.

Buell, Lawrence. *Writing for an Endangered World: Literature, Culture, and Environment in the U.S. and Beyond*. Cambridge, MA: Belknap Press of Harvard University Press, 2001.

Bunting, Basil. *The Complete Poems*. Oxford: Oxford University Press, 1994.

Butzer, Karl, and David Helgren. "Livestock, Land Cover, and Environmental History: The Tablelands of New South Wales, Australia, 1820–1920." *The Annals of the Association of American Geographers* 95.1 (2005): 80–111.

Chamovitz, Daniel. *What a Plant Knows: A Field Guide to the Senses*. Melbourne: Scribe, 2012.

Clark, Andy. *Supersizing the Mind: Embodiment, Action, and Cognitive Extension*. Oxford: Oxford University Press, 2008.

Clark, Gary. "History and Ecology: The Poetry of Les Murray and Gary Snyder." *Interdisciplinary Studies in Literature and Environment* 10.1 (2003): 27–54.

Clarke, Patricia, and Meredith McKinney. *With Love & Fury: Selected Letters of Judith Wright*. Canberra: National Library of Australia, 2006.

Clarke, Philip. *Aboriginal People and Their Plants*. 2nd ed. Dural Delivery Centre, NSW: Rosenberg Publishing, 2011.

Darley, W. Marshall. "The Essence of 'Plantness'." *The American Biology Teacher* 52.6 (1990): 354–57.

Darwin, Charles and Francis Darwin. *The Power of Movement in Plants*. New York: D. Appleton and Co., 1881.

Dennett, Daniel and Marcel Kinsbourne. "Time and the Observer: The Where and When of Consciousness in the Brain." *Behavioral and Brain Sciences* 15 (1992): 183–247.

Department of the Environment and Energy. "Gingidia rupicola in Species Profile and Threats Database." (2017). 18 Apr. 2017.
<http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=12096>

Derrida, Jacques. *Of Grammatology*. Trans. Gayatri Chakravorty Spivak. 3rd ed. Baltimore, MD: Johns Hopkins University Press, 1997.

Evernden, Neil. "Beyond Ecology: Self, Place and the Pathetic Fallacy." *The Ecocriticism Reader: Landmarks in Literary Ecology*. Eds. Cheryl Glotfelty and Harold Fromm. Athens, GA: University of Georgia Press, 1996. 92–104.

Fermanis-Winward, Michele. "I am more." *New Shoots Anthology: Poems Inspired by Plants*. Ed. Ella Skilbeck-Porter. Surry Hills, NSW: Red Room Company, 2017. 85.

- Firn, Richard. "Plant Intelligence: An Alternative Point of View." *Annals of Botany* 93.4 (2004): 345–51.
- Friedberg, Anne. *Window Shopping: Cinema and the Postmodern*. Berkeley, CA: University of California Press, 1993.
- Gagliano, Monica, Mavra Grimonprez, Martial Depczynski and Michael Renton. "Tuned In: Plant Roots Use Sound to Locate Water." *Oecologia* (2017). doi: 10.1007/s00442-017-3862-z.
- Gagliano, Monica, John Ryan and Patricia Vieira (eds). *The Language of Plants: Science, Philosophy, Literature*. Minneapolis, MN: University of Minnesota Press, 2017.
- Gagliano, Monica, et al. "Learning by Association in Plants." *Scientific Reports* 6.38427 (2016): 1–9.
- Geniusz, Mary Siisip and Wendy Makoons Geniusz. *Plants Have So Much to Give Us, All We Have to Do Is Ask*. Minneapolis, MN: University of Minnesota Press, 2015.
- Glück, Louise. *The Wild Iris*. New York: Harper Collins, 1992.
- Gorzalak, Monika, et al. "Inter-Plant Communication through Mycorrhizal Networks Mediates Complex Adaptive Behaviour in Plant Communities." *AoB Plants* 7.plv050 (2015). 10.1093/aobpla/plv050.
- Grande, John. *Art Nature Dialogues: Interviews with Environmental Artists*. Albany, NY: State University of New York Press, 2004.
- Heil, Martin, and Adame-Álvarez. "Short Signalling Distances Make Plant Communication a Soliloquy." *Biology Letters* 6.6 (2010): 843–45.
- Holopainen, Jarmo, and James Blande. "Molecular Plant Volatile Communication." In Carlos López-Larrea (ed). *Sensing in Nature*. Dordrecht: Springer, 2012. 17–31.
- Karban, Richard, et al. "Kin Recognition Affects Plant Communication and Defence." *Proceedings of the Royal Society B* 280.1756 (2013): 1–5.
- Kew. *The State of the World's Plants Report*. Kew: Royal Botanic Gardens, 2016.
- Kull, Kalevi. "An Introduction to Phytosemiotics: Semiotic Botany and Vegetative Sign Systems." *Sign Systems Studies* 2 (2000): 326–50.
- Mahall, Bruce and Ragan Callaway. "Root Communication among Desert Shrubs." *Proceedings of the National Academy of Sciences* 88.3 (1991): 874–76.

Mancuso, Stefano and Alessandra Viola. *Brilliant Green: The Surprising History and Science of Plant Intelligence*. Trans. Joan Benham. Washington, DC: Island Press, 2015.

Marder, Michael. *Plant-Thinking: A Philosophy of Vegetal Life*. New York: Columbia University Press, 2013.

Marder, Michael and Patrícia Vieira. "Writing Phytophilia: Philosophers and Poets as Lovers of Plants." *Frame* 26.2 (2013): 37–53.

McInerney, Stephen. "‘Art with Its Largess and Its Own Restraint’: The Sacramental Poetics of Elizabeth Jennings and Les Murray." *Between Human and Divine: The Catholic Vision in Contemporary Literature*. Ed. Mary Reichardt. Washington, DC: The Catholic University of America Press, 2010. 207–25.

McKerrow, Raymie. "Corporeality and Cultural Rhetoric: A Site for Rhetoric’s Future." *Southern Communication Journal* 63.4 (1998): 315–28.

Merchant, Carolyn. *Reinventing Eden: The Fate of Nature in Western Culture*. 2nd ed. New York: Routledge, 2013.

Murray, Les. *Translations from the Natural World*. Paddington, NSW: Isabella Press, 1992.

Nancy, Jean-Luc. *Being Singular Plural*. Trans. Robert Richardson and Anne O’Byrne. Stanford, CA: Stanford University Press, 2000.

NSW Office of Environment and Heritage. "New England Tableland." (2016). 17 Apr. 2017.

<www.environment.nsw.gov.au/bioregions/NewEnglandTableland-Maps.htm>

---. "New England Tableland: Biodiversity." (2016). 18 Apr. 2017.

<www.environment.nsw.gov.au/bioregions/NewEnglandTableland-Biodiversity.htm>

Oswald, Alice. *Weeds and Wild Flowers*. London: Faber and Faber, 2009.

Plec, Emily. "Perspectives on Human-Animal Communication: An Introduction." *Perspectives on Human-Animal Communication: Internatural Communication*. Ed. Emily Plec. New York: Routledge, 2013. 1–13.

Raguso, Robert and André Kessler. "Speaking in Chemical Tongues: Decoding the Language of Plant Volatiles." *The Language of Plants: Science, Philosophy, Literature*. Eds. Monica Gagliano, John Ryan and Patrícia Vieira. Minneapolis, MN: University of Minnesota Press, 2017. 27–61.

Ryan, John. *Plants in Contemporary Poetry: Ecocriticism and the Botanical Imagination*. New York: Routledge, 2017.

---. "Where Have All the Boronia Gone? A Posthumanist Model of Environmental Mourning." *Mourning Nature: Hope at the Heart of Ecological Loss and Grief*. Eds. Ashlee Cunsolo and Karen Landman. Montreal: McGill-Queen's University Press, 2017. 117–43.

---. "Sacred Ecology of Plants: The Vegetative Soul in the Botanical Poetry of Les Murray." *Journal for the Study of Religion, Nature and Culture* 10.4 (2016): 459–84.

---. *Green Sense: The Aesthetics of Plants, Place and Language*. Oxford: TrueHeart Publishers, 2012.

---. "Passive Flora? Reconsidering Nature's Agency through Human-Plant Studies (HPS)." *Societies* 2.3 (2012): 101–21.

Schiestl, Florian. "The Evolution of Floral Scent and Insect Chemical Communication." *Ecology Letters* 13.5 (2010): 643–56.

Scott, Clive. "Translating the Nineteenth Century: A Poetics of Eco-Translation." *Dix-Neuf* 19.3 (2015): 285–302. doi: 10.1179/1478731815Z.00000000083.

Shelley, Percy Bysshe. "The Sensitive Plant." *The Selected Poetry and Prose of Shelley*. Ed. Bruce Woodcock. Hertfordshire, UK: Wordsworth Editions Limited, 1994. 423–32.

Skrzynecki, Peter. *Easter Sunday*. Sydney: Angus and Robertson, 1993.

---. "Ulysses in New England: A Tribute to Judith Wright." *Southerly* 52.3 (1992): 101–06.

---. *The Aviary: Poems, 1975–1977*. Sydney: Edwards & Shaw, 1978.

Solnit, Rebecca. *Savage Dreams: A Journey into the Landscape Wars of the American West*. Berkeley, CA: University of California Press, 1994.

Spivak, Gayatri Chakravorty. "Translator's Preface." *Of Grammatology*. Ed. Gayatri Chakravorty Spivak. Baltimore, MD: Johns Hopkins University Press, 1997. ix–xc.

Tarlo, Harriet. "Introduction." *The Ground Aslant: An Anthology of Radical Landscape Poetry*. Ed. Harriet Tarlo. Exeter, UK: Shearsman Books. 2011. 7–18.

Tompkins, Peter and Christopher Bird. *The Secret Life of Plants*. New York: Harper & Row, 1973.

Trewavas, Anthony. "Plant Intelligence: An Overview." *BioScience* 66.7 (2016): 542–51.

Vieira, Patrícia. "Phytographia: Literature as Plant Writing." *The Language of Plants: Science, Philosophy, Literature*. Eds. Monica Gagliano, John Ryan and Patrícia Vieira. Minneapolis, MN: University of Minnesota Press, 2017. 215–33.

Wink, Michael. "Modes of Action of Herbal Medicines and Plant Secondary Metabolites." *Medicines* 2.3 (2015): 251–86.

Wright, Judith. *Five Senses: Selected Poems*. Sydney: Angus and Robertson, 1963.

---. *The Two Fires*. Sydney: Angus and Robertson, 1955.

---. *The Gateway*. Sydney: Angus and Robertson, 1953.