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# Writing the Lives of Plants: Phytography and the Botanical Imagination

By John Charles Ryan

#### ABSTRACT

Phytography refers to human writings about plant lives as well as plant writings about their own lives. The author conceptualizes phytography in terms of vegetal intelligence, behavior, corporeality, and temporality. Narrating the complex worlds of plants, phytography uses a variety of formal strategies to advocate new possibilities for human-flora relations.

#### **KEYWORDS**

plants; poetry; posthumanism; phytography

There is a wild apple on Nawshawtuct Hill in my town which has to me a peculiarly pleasant bitter tang, not perceived till it is three-quarters tasted. It remains on the tongue. As you eat it, it smells exactly like a squash-bug. It is a sort of triumph to eat and relish it.

— Henry David Thoreau, Wild Fruits: Thoreau's Rediscovered Last Manuscript.

### Introduction

Recent popular botanical nonfiction nourishes a long-standing public fascination with the mysterious inner worlds of plants.<sup>1</sup> Weaving between scientific exposition and narrative reflection, forester Peter Wohlleben's *The Hidden Life of Trees*, published in English in 2016, appraises the occurrence of friendship, language, love, and communication in the arboreal domain.<sup>2</sup> Organized around recurring visits to twelve tree personae, moreover, biologist David George Haskell's *The Songs of Trees* foregrounds the complexities of sonic expression within forest communities. Framing vegetal cognition as intrinsically networked, Haskell claims that "part of a plant's intelligence exists not inside the body but in relationship with other species."<sup>3</sup> Indeed, the appearance of these and other examples of botanical nonfiction parallels the development—particularly

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over the last fifteen years—of the field of plant cognition and behavior.<sup>4</sup> An upshot of this increasing interchange between botanical science and narrative is the unabashed characterization of plants as "intelligent" by Haskell, Richard Mabey, Wohlleben, and other nonfiction writer-naturalists. Nevertheless, interlinked generalist and technical interest in the percipience of vegetal life—beyond its instrumentalization as food, fiber, and medicine—is nothing new. An infamous case in point is *The Secret Life of Plants*, published in 1973 by journalists Peter Tompkins and Christopher Bird. Partly an elaboration of biophysicist Jagadish Chandra Bose's experimental work in the early twentieth century, the popular though controversial account—deemed spurious and esoteric by many scientists—later became a documentary featuring a soundtrack by Stevie Wonder.<sup>5</sup>

For Bose, the possibility that plants signify their lives through forms of language was more than metaphorical. In an address delivered in 1911, he postulated that vegetal "script"-disclosed through technological innovations-would reveal the interior worlds of plants that otherwise would remain concealed from human awareness.<sup>6</sup> To be sure, Bose's scientific writings intersect with some contemporary botanical nonfiction through a shared belief that elusive vegetal lives can be unraveled and, thus, rendered transparent. The development of instrumentation-for instance, Bose's crescographs—and the enactment of reductive modes of thinking about plants constitute the means to decipher vegetal being-in-the-world. A prominent aspect of the marginalization of individual botanical lives in these nonfiction accounts and others is the collectivization of plants' percipient faculties. In The Songs of Trees, for instance, the individuation of the balsam fir serves as a framing device for the larger scientific narrative of the species and its ecological relations.<sup>7</sup> Toward a view of plants as networked memes with transcorporealized intelligence, Haskell even summons Virginia Woolf's assertion that real life is "the common life, not the 'little separate lives which we live as individuals'" and, moreover, that "common life is the only life."8 In response to Haskell's assertion, in this article, I ask the following: Where are the singular lives of plants in botanical prose and poetry? The problem, as I understand it, is that Haskell and other plant writers, at times, cannot see the trees for the forest. My intention here is neither to trace nor deconstruct this problem philosophically, as plant-thinker Michael Marder has already done,<sup>9</sup> but instead to delineate *phytography* as the writing of plants-as our writing about their lives and their writing about themselves and, possibly, about us and us in relation to them.

In conceptualizing phytography in terms of posthumanist life writing and proposing its main tenets, I examine nonfiction and poetry that I believe counter a tendency in contemporary botanical writing to privilege

plant communities and networked intelligence over individually percipient-and sentient-personae.<sup>10</sup> Cultivating careful and strategic forms of anthropomorphism,<sup>11</sup> these phytophilic writers-from Henry David Thoreau in the nineteenth century to poet Wendy Burk in recent yearsecho Marder's assertion that "the plant is at once the most singular and the most general being."<sup>12</sup> Their work offers insights into the complex lives of trees, shrubs, and herbs through various focal points. These include particularization (attention to individual plant characters), percipience (plants as intelligent, responsive, and agentic beings), corporeality (plants as embodied individuals located in time and space), temporality and seasonality (the changeability of flora over time and seasons), emplacement (the influence of place on plantness and vice versa), language and signification (the interpellations, interpolations, and communicative modalities specific to vegetal life), historicity (the intertwining of botanical and human histories), and mortality (the decline and demise of plants as meaningful events prompting human mourning, memorialization, and elegy). Within the overarching phytographic frame, I put forward two posthumanist lifewriting principles relevant to the dialectic of auto/biography: writing-with and writing-back. The first term denotes more-than-human life writing composed in dialogue with living plants, whereas the second signifies the ways in which plants write their own lives-sensorially and materiallyirrespective of human mediation. The article then concludes with an overview of my ongoing experiment in field-based poetic composition, "Gorge: Scriptorium | Tree | Excubitorium," carried out in conjunction with the lively flora of the Northern Tablelands of New South Wales, Australia. In "Gorge," collaborative human-botanical script hinges on writing-with plants while allowing their writing-back-their own expressions, utterances, gesticulations-to suffuse the poetic text.

# Life Writing and the More-Than-Human: Theoretical Perspectives

Writing botanical lives involves negotiating various compositional hurdles originating in commonplace discourses about, and perceptions of, plants. Of course, in contrast to humans, mammals, and birds, vegetal life is mostly sessile and, therefore, difficult to perceive on an everyday basis as doing anything noteworthy, except when flowering, fruiting, or dying. Traditionally regarded as mute and passive—"they hardly move and make no noise"—plants adhere to temporalities sharply divergent from mobile creatures.<sup>13</sup> They orchestrate evolutionary processes, such as photosynthesis, essential to the biosphere yet grossly underappreciated by human-kind.<sup>14</sup> Machinic and aesthetic tropes, moreover, dominate ways of

thinking about plants, reducing their inner workings to "control circuits" and likening their outer forms—leaves, trunks, roots—to "beautiful objects."<sup>15</sup> Confronted by the formidable otherness of vegetal beings, we attempt to exert linguistic control over them through taxonomic designators (species, genera, families, varieties), sexually-fixated metonymies (flowers, blossoms, blooms, fruits), and reductive scientific terminologies (specimens, samples, compounds, active ingredients). What is more, a prevailing instrumentalization characterizes most human relations to flora, formalized in the paradigm of economic botany, or the "biology, culture and utilisation of plants and plant products."<sup>16</sup>

The prevalence of utilitarianism, instrumentalization, and reductionism in our dealings with plants constrains the emergence of more-than-human life writing attuned to their intelligence, sentience, and other complexities, as demonstrated to an increasing extent by scientific research.<sup>17</sup> Notwithstanding their opaqueness-at least from a human standpointindividual plants should be regarded as meaningful narrative subjects in their own right. My contention here reflects the most inclusive and biocentric sense of life writing as "writing that takes a life, one's own or another's [including an animal's or plant's], as its subject. Such writing can be biographical, novelistic, historical, or explicitly self-referential and therefore autobiographical."18 Instead of narrowing plants to their uses and appearances—and so negating their diverse capacities—phytography engages "the botanical imagination" as the relational, intercorporeal, and dialogical opening of narratives to vegetal being.<sup>19</sup> As we envision plants as autobiographical subjects, so they imagine us back in an interplay of imaginings; as we write the lives of plants, so they write their own lives-and ours. Plants write-back into autophytographical accounts as their unique articulations weave into the fabric of diverse shared narratives.<sup>20</sup> This posthumanist view shifts phytographical writing from concerns of textual representation toward the interbraiding of the authorial (human) self with the creative agencies of vegetal lives.<sup>21</sup> Writing-with plants necessitates openness to their material-sensorial significations-their feedback, edits, and criticisms, if you will-which trouble the assignation of language to the human domain.<sup>22</sup>

From a phytographical perspective, "to show interdependency, human language would be replaced by diverse communications and interactions."<sup>23</sup> The challenge for the human writer of plant lives is to sense, listen, and allow in a state of suspended judgement comparable, for instance, to Edmund Husserl's idea of phenomenological bracketing.<sup>24</sup> Writing-with plants—and in dialogue with their writing-back—encourages a movement of human awareness of flora between a preoccupation with *botanical life* (homogenizing, based in the taxonomic ordering of nature) and an embracing of botanical lives (heterogenizing, grounded in an empathic regard for individual plants as subjects with particular lifeworld experiences). Such a transformation in outlook, I believe, lays the groundwork for a posthumanist theory and practice of phytography. In this regard, literary scholar Nancy K. Miller argues that "in autobiography [and other forms of life writing] the relational is not optional. Autobiography's story is about the web of entanglement in which we find ourselves, one that we sometimes choose."25 Although not explicitly referring to the more-than-human, Miller urges the reconfiguration of humanist tenets of life writing through investigation of entangled subjectivities in narratives. In coming to theorize posthumanist life writing about animals, however, scholars have largely overlooked plants. Cynthia Huff and Joel Haefner, as an example, theorize the representation of non-human animals in "animalographies" or "narratives 'by' and about animals, in which human beings control what animals say, hiding behind an image and an inscription humans create."26 According to Huff and Haefner, these kinds of zoo-centric stories constitute anthropomorphizations as "humans reconstruct their own subjectivities in the voices of animals."27 In animalographies, the human writer "ventriloquizes the animal's voice allegedly to tell his story."28 Nevertheless, some works, such as the children's novel A Dog's Life: The Autobiography of a Stray by Ann M. Martin, enable young readers to gain an appreciation of the difference between ethical and unethical relations to animals.<sup>29</sup>

To be certain, life-writing scholars have also theorized biography and autobiography in relation to poetry. Terms such as *biographical poetry*, *biographical verse*, and *verse biography* denote "poetic texts that tell the life story of another [human or more-than-human]."<sup>30</sup> Biographical poetry often discloses the author's perception of a character's ethos (moral orientation) and dianoia (the rationality of his, her, or, in the case of a plant, its thinking) while at the same time generating cultural and historical insights.<sup>31</sup> In contrast, autobiographical poetry "denotes a clear referential connection between the drama of the work and the drama of [the poet's] own life."<sup>32</sup> Some poems—especially in the confessional tradition of W. D. Snodgrass, Sylvia Plath, and others—are unequivocally autobiographical narratives where the poem's speaker *is* the writer.<sup>33</sup> In certain cases, however, the broader aesthetics and polemics of confessional poetry decouple it from pure autobiography.<sup>34</sup>

Phytography, then, is critical posthumanist life writing about morethan-humans that pivots on the potential of collaborating and coauthoring narratives with plants, notwithstanding their profound otherness. The phytographical genre emphasizes intersubjectivity, interactivity, and relationality, resisting "unimodal" approaches predicated on strongly humanistic tenets.<sup>35</sup> Although entailing a critique of science—and, specifically, reductive taxonomic, morphological, biochemical, and biogeographical approaches to plants—the move toward phytography does not constitute a wholesale rejection of botany. Instead, contemporary phytography involves dialogue with emerging forms of botanical research namely, plant signaling, cognition, and behavior—that destabilize human exceptionalism and forward the posthumanist appreciation of plant life, as summarized, for instance, in plant neurobiologist Stefano Mancuso's book *The Revolutionary Genius of Plants*. Informed by integrative modes of science, critical posthumanism reconceptualizes life writing by calling into question "the autonomous self, the pact between author and reader, the foregrounding of the human" through an emphasis on relationalmaterial Umwelten, or lifeworlds.<sup>36</sup>

Although concerned explicitly with human communities in the Caribbean, Édouard Glissant's thoughts on otherness help to elucidate the idea of phytography in the light of human-plant difference: "I thus am able to conceive of the opacity of the other for me, without reproach for my opacity for him. To feel in solidarity with him or to build with him or to like what he does, it is not necessary for me to grasp him. It is not necessary to try to become the other (to become other) nor to 'make' him in my image."<sup>37</sup> Decentering the sense of sight and the aesthetics of the visual, phytographical writing embraces the opacity of plants through attention to the complexities of sound, touch, taste, and smell in their lives.<sup>38</sup> With attention to the subjectivities of photosynthetic more-thanhumans, phytography confers to plants the right to narrate their own stories. Given agential standing, plants thus become "coaxers of life narrative."39 Extending Huff's posthumanist framing of life writing, phytography eschews stories of "progress in favor of those disrupting any linear narrative, telling, instead, a becoming together."40 Privileging relational subjectivities, furthermore, phytography narrativizes a permeable "space where many beings-some of them readily visible, some not [for example, plants]-continually affect each other in contradistinction to the story of an individual human moving through and dominating space."41

Writing with, and in response to, plants in this way requires becoming conversant with their communicative modalities. A useful conceptual platform is phytosemiotics, or the study of sign processes within and between plants.<sup>42</sup> Phytosemiotics has been inspired by the research of biologist Jakob von Uexküll, who, in 1922, observed that the "comfortable calm" of plants conceals a bustle of communicative transactions from the human eye.<sup>43</sup> To be sure, the field of phytosemiotics regards language and signification in the vegetal world as functions of plant physiologies. From a

phytosemiotic perspective, sign processes, including immunological responses and intercellular communication, express the plant's inner experiences of the world at the microscalar level of cells and tissues. In a related sense, Patrícia Vieira theorizes the notion of *phytographia*—or, literally, "plant writing"—as denoting "the specific modes in which the vegetal world is embedded in human cultural productions."<sup>44</sup> For Vieira, the concept signifies the permeability between literary representations of flora and "the imprints left in texts by the plants themselves."<sup>45</sup> As such, a plant-focused narrative is necessarily heteroglossic as vegetal and human forms of inscription interact and entangle.

In previous conceptualizations of vegetal language, furthermore, I have assayed the potential for poetic narrative to become "plant script" composed in response to "the endemic semiosis of vegetal life."46 The term plant script signifies the nonverbal forms of expression specific to vegetal life and comprising, for instance, pheromonal transmissions, electrical signals, acoustic signatures, and corporeal articulations (the curling of tendrils in response to sunlight or the bifurcation of the tree branch following insect infestation).<sup>47</sup> For me, as for Vieira, plant script intermeshes with texts and processes of textual composition. Drawing from Bose's experimental work, this principle encompasses the autopoietic expressions of plants enacted by-rather than imposed on-them as agents in the world. In these two theoretical models of vegetal language, the enunciations of plant life contribute to the poiesis-the becoming, evolution, maturation-of botanical narratives themselves. These enunciations signify possibilities of growing, suffering, competing, aspiring, and other affective vegetal states that can emerge in narratives of plant intelligence wherein the human imagination is allowed to transcend the limits of rationalistic plant discourse and the stigma of anthropomorphism.

# Plant Lives in Botanical Nonfiction: From Thoreau to Haskell

Unsettling humanistic compulsions within traditional life writing and engaging critically with ecological understandings of flora, phytography calls attention to the complexities of plants and plant-Umwelt interactions. Toward collaborative exchange with botanical life, phytographical writing also contests the stigma traditionally associated with anthropomorphism, or "the attribution of human properties to nonhuman entities."<sup>48</sup> Narrating individual plant lives in the context of their botanical confederations, this mode of more-than-human life writing often employs anthropomorphism to prompt readers to care more about vegetal others. On this note, Alexa Weik von Mossner observes that "anthropomorphism is inevitable when nonhumans become narrative agents in human stories, and yet there is a wide spectrum of how it has been employed."<sup>49</sup> As a response to such prevalence, she advocates *strategic anthropomorphism* as a means to engender empathy for, and relationality with, more-than-human subjects in narratives.<sup>50</sup> In a similar manner, Jane Bennett urges the "need to cultivate a bit of anthropomorphism—the idea that human agency has some echoes in nonhuman nature—to counter the narcissism of humans in charge of the world."<sup>51</sup> For Bennett, "a touch of anthropomorphism, then, can catalyze a sensibility that finds a world filled not with ontologically distinct categories of beings (subjects and objects) but with variously composed materialities that form confederations."<sup>52</sup> In reference to animal intelligence, moreover, ethologists Jesús Rivas and Gordon Burghardt proffer *critical anthropomorphism* as a foil to potentially harmful forms of anthropomorphism that become the implicit basis for drawing conclusions about the inner worlds of animals.<sup>53</sup>

A seminal example of phytographical nonfiction imbricating vegetal and human lives-and deaths-through the story of an individual plant persona is "Good Oak," the second, or February, section of the seasonally choreographed first part of Aldo Leopold's A Sand County Almanac, published originally in 1949.<sup>54</sup> The essay opens with the present-tense immediacy of an oak log burning in a fireplace during the Wisconsin winter: "The particular oak now aglow on my andirons grew on the bank of the old emigrant road where it climbs the sandhill."55 In death, the tree retains narrative voice, not as a ventriloquization of human expression but as the registering of a specific material-affective "cluster of feelings triggered by life finding a way to announce itself."<sup>56</sup> Even as it is consumed by the fire, the oak remains an emplaced presence with an identity constituted in space and time. Rather than exclusively foregrounding biogeographic patterns, population distributions, and broadscale species interactions, phytography calls attention to the existences of particular plants vis-à-vis their places of inhabitation: the sandhill, the old road, the andirons. In Leopold's account, moreover, the oak corpus inscribes time's advance and, accordingly, temporalizes history and historical consciousness. The stump "shows 80 growth rings, hence the seedling from which it originated must have laid its first ring of wood in 1865, at the end of the Civil War."57 Mediated by the tree body, the synchronization of cultural and botanical pasts is a form of strategic anthropomorphism. Rousing empathy for, and identification with, arboreal lives, Leopold figures the oak seedling as an offspring of a transformative yet immensely tragic period in US history.

A technique used by Leopold is to treat the death of the emplaced tree-persona as an ecologically and emotionally reverberative event that

impacts myriad lives, including his own. For literary-studies scholar Erin James, this second section of A Sand County Almanac is a "biography of the individual oak" predicated on "collaboration between plant and human language" toward the celebration of the life and death of a tree.<sup>58</sup> Moving away from reductive generalizations and toward affective regard for a singular plant entity, Leopold tells us that a lightning bolt "put an end to wood-making by this particular oak."59 For Leopold, delineating the oak's experiences-in dialogue with the embodied oak itself-necessitates attentiveness to the tree's decline and demise. Narrative memory in "Good Oak" coheres with the corporeality-and mortality-of the tree as "the trunk showed a long spiral scar of barkless sapwood, a foot wide and not yet yellowed by the sun."<sup>60</sup> Although triggering mourning in the narrator, the loss of the old oak invariably leads to ecological renewal as "a dozen of its progeny standing straight and stalwart on the sands had already taken over its job of wood-making."61 In a marked shift of course, the narrative then synchronizes the act of sawing with the passage of interlinked human-vegetal temporalities. The blade cuts "stroke by stroke, decade by decade, into the chronology of a lifetime, written in concentric annual rings of good oak."62

Thus, the composition of Leopold's phytographical narrative comes to approximate the speaker's very movements through the oak corpus. The upshot is a call-and-response text written-with the arboreal body and organized around the present-tense refrain "rest! cries the chief sawyer, and we pause for breath."63 The metempsychotic capacity of the oak enlivens-literally, inspirits-multispecies regeneration following its incineration on the andirons. The ashes "will come back to me again, perhaps as red apples, or perhaps as a spirit of enterprise in some fat October squirrel, who, for reasons unknown to himself, is bent on planting acorns."64 James suggests that Leopold's phytography can be understood "as a delicate dance between human imagination and plant signification," in which the "oak's material language ... dictates the pace and focus of his narration."65 Maintaining careful, strategic anthropomorphism-without collapsing into the distanced, objective mode privileged in traditional scientific discourse-Leopold's mediation of human-vegetal intersectionality takes into consideration the forms of experience and modes of signification of the tree. As postulated by Rivas and Burghardt, critical anthropomorphism of this kind can help to overcome-rather than reinforce or perpetuate-biases against more-than-human beings by stimulating awareness of the inherent relationality between all lives nested in a place. As such, the oak is not a vegetal subordinate-rendered and reduced in prose-but an active contributor to, and autonomous agent in, the phytographical progression. This is so even in the oak's death; the essence of the tree remains in the text just as it does in the fat squirrel, planted acorns, and red apples—of then and of now.

First appearing in 1862, American naturalist Henry David Thoreau's essay "Wild Apples" presents another phytographical example, distinct for its highly nuanced attention to multisensorial interaction with apple-tree personae.<sup>66</sup> Throughout his narrative corpus and particularly in works such as Faith in a Seed, Thoreau developed a transdisciplinary, culturally inflected model of botany contingent on local, individual plant personae while eschewing anthropocentric ontologies of plants.<sup>67</sup> In Thoreau's botanical prose, the trees write-back into the text-with the human author and reader as mediators-via their diverse haptic, olfactory, and gustatory significations. The opening passages signal the interplay of seasons and sensorialities that is characteristic of Thoreau's approach: "early apples begin to be ripe about the first of August, but I think that none of them are so good to eat as some to smell."68 Comparable to the first part of Leopold's A Sand County Almanac, Thoreau's narration of botanical lives creates intimacy with individual vegetal beings as they change-seed, fruit, flower, sprout, mature, decline-across time spans and seasons. More specifically, "Wild Apples" emphasizes smell- and taste-related memory as a means to engender rapport with plants while imbuing human language with vegetal forms of enunciation: "The fragrance of some fruits is not to be forgotten, along with that of flowers."69 Vivid prose particularizes one tree in space and time as Thoreau remembers it: "Going up the side of a cliff about the first of November, I saw a vigorous young apple tree which, planted by birds or cows, had shot up amid the rocks and open woods there and had now much fruit on it."70 The young tree was "a rank, wild growth, with many green leaves on it still, and made an impression of thorniness."71 Its fruit-some dangling on branches, some scattered on the ground, some bowled down the hill by gravity-appeared green and inedible.

Phytographical writing, such as Thoreau's "Wild Apples" and Leopold's "Good Oak," generates a porous body-text-plant-Umwelt where, in keeping with Huff's assertion, "many beings—some of them readily visible, some not—continually affect each other."<sup>72</sup> To be certain, Thoreau championed the lives of vegetal beings—including the young, rank, and wild apple—that might otherwise remain opaque, invisible, and unappreciated, except to more-than-human members of its community: "The day was not observed when it first blossomed nor when it first bore fruit, unless by the chickadee."<sup>73</sup> Later, the essay narrates a recollection of encountering a crab apple at Saint Anthony Falls in Minnesota at the northern limit of its range: "I succeeded in finding it about eight miles west of the Falls; touched it and smelled it, and secured a lingering corymb of flowers for my herbarium."<sup>74</sup> The nonfiction of Thoreau and Leopold is predicated on sustained interest in vegetal personae through time and over the seasons. In slight contrast, contemporary botanical prose tends to integrate individual plant lives as rhetorical devices for delineating broadly sweeping natural-history and ecological narratives.<sup>75</sup>

As a case in point, the tendency to overlook particular plants (as *lives*) in favor of generalized plants (as life) surfaces in the essay "A Question of Character" from The Hidden Life of Trees by Wohlleben.<sup>76</sup> On first glance, most readers would think that the idea of *plant character* aligns perfectly with the examination of individual vegetal lives, such as the subjective inner worlds of Leopold's oak and Thoreau's apple. Wohlleben's chapter indeed begins on a promising note, with Thoreauvian-Leopoldian specificity: "On the country road between my home village of Hümmel and the next small town in the Ahr valley stand three oaks. They are a commanding presence out in the open fields, and the area is named in their honor."77 The oak trio is an emplaced presence that reverberates within its biocultural milieu. Each oak, moreover, exhibits unique behavior because of its "innate characteristics."78 Wohlleben elaborates that "whereas the oak on the right is already turning color, the middle one and the one on the left are still completely green."79 However, the author's empathy-engendering particularization of individual oaks within the grove soon veers in a different direction. Leaving the oak trio behind by the end of the second paragraph of the chapter, Wohlleben suggests tantalizingly that "the timing of leaf drop, it seems, really is a question of character."80 The narrative then plunges headlong into a synopsis of photosynthetic processes, the anatomy of deciduous trees, and mechanisms used by oaks to ward off fungal invasions. This descent from the particularized to the essentialized-from plant lives to plant life-is marked by the following kinds of declaratives: "Trees cannot anticipate the coming winter. They don't know whether it is going to be harsh or mild. All they register are shortening days and falling temperatures."81

A comparable progression—from *lives* to *life*—also pervades Haskell's rendering of the balsam fir in the second chapter of *The Songs of Trees*. An epigraph signifies the geographical precision of the author's encounter with the tree: "Kakabeka, north-western Ontario, 48°23'45.7 N, 89°37'17.2 W."<sup>82</sup> The evocative initial passages of the chapter immerse the reader in a fir's seasonality, sensoriality, and physicality: "In summer the slate blue cones were clenched shut. Copious dribbles of resin kept away birds and squirrels. Now, in October, the cones have browned and the dried resin has fallen. Scales have eased apart to reveal stacks of thin, translucent paper. A flick of wind shatters the cone with a gentle snap and hiss, then paper kites stream away, some carried high, others

spinning to the ground. Each kite has a traveler clinging to its base, a balsam fir seed barely thicker than the paper that carries it."83 Like Wohlleben's treatment of the oak, however, Haskell's highly particularized account of the fir gravitates toward a natural-history mode that privileges the collective while at the same time tending to obscure the individual. In contrast to Wohlleben's narrative of the oak trio, Haskell's narrativization oscillates, at times, between the balsam-fir personae and the generalities of its genus-species. Notwithstanding the individual character of the tree-within its lifeworld but also as an Umwelt for other intelligent creatures, including chickadees-the fir becomes an essentialized category of nonhuman beingness through declaratives including, "Some plant responses are long term, such as the growth of branches into light or roots into fertile soil. Plant architecture is not a haphazard affair but is the result of constant assessment and adjustment as conditions change."84 What strikes me as diminished, to varying degrees, in the narratives of Haskell, Wohlleben, and other contemporary botanical non-fiction writers is a balanced, even dialogical sense of the plant in focus as "at once the most singular and the most general being."85

# **Phytographical Poetry: Letting Plants Tell Their Own Stories**

Encompassing nonfiction and poetry, phytography as conceptualized in this article destabilizes the boundary between biography and autobiography as the voices-articulations, enunciations, gesticulations-of plants figure into the form and content of narratives. I postulate that, to some extent, all phytographical writing absorbs the inflections of botanical beings, and therefore an element of coauthorship is inescapable. From a posthumanist standpoint, plant life writing is inherently a polylingual, heteroglossic "becoming together" as vegetal and human linguae interleave.<sup>86</sup> The principles of writing-with plants collaboratively and plants writing-back into texts figure into examples of contemporary phytographical poetry, which I define as the writing of botanical lives in verse. A cross section of poems-on vegetal sensorialities, first-person flower voices, plant-insect co-vocalizations, and experimental poem-transcripts derived from tree interviews<sup>87</sup>—is illustrative of phytographical poetry as human authors writing-with plants in response to the material interpolations of vegetal life.

Australian poet Andrew Lansdown's "A Few Weeks Later I Return to Find," from his 1979 collection *Homecoming*, focuses on multisensorial engagement with a balga tree (*Xanthorrhoea preissii*), endemic to the southwest corner of Western Australia. Instead of attempting to create a narrative portrait of the individual plant's life—from germination to maturation—Lansdown's poetic phytography elaborates an exact moment of nonverbal poet-balga interchange. A strong undertow in the poem, furthermore, is the dual role of botanical science in both disclosing and obscuring botanical lives. Thus approximating within the text the friction between scientific and sensory epistemologies of plants, the account opens with a visual anatomization of the *Xanthorrhoea preissii* flower, tracking between taxonomic and poetic language:

Centred in the *stamens*, the shorter *stylus*—surrounded, and at times, 'covered by a glistening glob of transparent nectar which, in turn, was caught in the cup-pit of the six guardian *stamens*.<sup>88</sup>

Following this morphological snapshot, the poem begins to elicit a sense of the *Xanthorrhoea preissii* as a particular vegetal being representative of its species. Grounded in multisensorial dialogue, the poet-plant exchange reaches a crescendo when

I thought each flower had mysteriously caught last night's dew, so I put my tongue to it (Descartes would not have approved) to see: it was a powerful, honey-thick nectar. The odour was a heavy sweetness. I wiped the pollen from my nose.<sup>89</sup>

Lansdown's description of the tonguing of the nectar evokes a moment of joyous, even erotic, intersubjectivity between poet and plant. The balga expresses its fertile being-in-the-world via the material registers of the nectar: powerful, heavy, sweet, and honey-thick. Hence, gustatory, olfactory, and tactile transactions between the poet and the balga disrupt the detachment of the Cartesian *cogito ergo sum*. The narrator participates in—rather than perceives from a distance—the material signifiers of vegetal transformation over time. In this regard, the balga is not a static, passive object but a mutable, intelligent phenomenon capable of writing its own life through its own bodily articulations. As such, Lansdown's narrative can be read as a collaborative inscription at the human-plant conjunction.

In Louise Glück's Pulitzer Prize-winning volume *The Wild Iris*, published in 1992, plants also write their own lives in dialogue with the narrator. In the first-(plant)person voice, garden flowers express their inner worlds—emotions, memories, and states of consciousness—through vegetal script facilitated by the poet. The titular poem, "The Wild Iris," 110 🕳 J. C. RYAN

inscribes the sapience of the flower. In their perennialism, irises archive the traces of seasonal deaths and resurrections. The conscious flower bulb remembers its interment as it anticipates spring's arrival:

Overhead, noises, branches of the pine shifting. Then nothing. The weak sun flickered over the dry surface.

It is terrible to survive as consciousness buried in the dark earth.<sup>90</sup>

To be sure, Glück's stanzas cohere with current understandings of visual, sonic, and proprioceptive perception in plants.<sup>91</sup> Contrary to Friedrich Nietzsche's assertion that memory-but not consciousness-prevails in the vegetal kingdom, Glück figures the iris bulb as a plenum of intellective activity. The expansiveness of vegetal consciousness casts in sharp relief the limited capacity of human recollection, emphasized by the irisspeaker's characterization of-that is, its writing-back to-the poet-gardener as "you who do not remember | passage from the other world."92 The flower's blunt declarations reflect its individual character and personality within its life arc. The enactment of vegetal cognition in "The Wild Iris" entails the narration of plant voice as constituted by the embodied significations with which the shamanic poet-gardener writes in response. Glück's botanical poetics remind us that writing-with flora is predicated on receptivity to their forms of writing-back (their voices, gestures, expressions, interpolations). Narrating how our experiences imbricate with those of plants, phytography indeed emerges at the intersection of vegetal and human languages. In short, writing botanical lives in this way demands protracted attention to the intelligence and creativity of plants, as well as their beauty and uses.

Whereas the phytographical poetry of Glück and Lansdown employs the lyric mode, Jody Gladding's *Translations from Bark Beetle* from 2014 pushes boldly into the province of human-plant-insect auto|biography and multispecies coauthorship. Part ephemeral and found art, part experimental poetics, *Translations* comprises two kinds of phytographical poetry. Both situate the vibrant materiality of plants as the substratum for polylingualism in human and more-than-human worlds. In the first, Gladding transliterates "notations" etched in trees by bark beetles and, in the second, she engraves her own poems on natural-media slate.<sup>93</sup> The beetle engravings—the material significations of entangled lives—supply "both a shape and a language for each poem."<sup>94</sup> The book features the beetles' "encoded glyphs," minimally mediated in the form of graphite rubbings.<sup>95</sup> Narrating the covocalization of insect, tree, and writer, the polyphonic collection "calls us to a deeper communion—*true collaboration*—between art and the more-than-human world."<sup>96</sup>

*Translations* epitomizes Miller's argument that, in autobiography and other kinds of life writing, "the relational is not optional" within a "web of entanglement."<sup>97</sup> This assertion concretizes in "Engraver Beetle Cycle" and, in particular, the poem's idiosyncratic use of black dots to call out the linguistic reduction of subjectivities to pronouns:

```
Yo• can only travel in one direction
but turn again with m• there love
sap in the chamber
red the friable

("Spending Most of their Time in Galleries,
Adults Come into the Open on Warm Sunny
Days")

through work the quietly
puncture begins in a dark
if not there's no
telling

(rue mores of light and lying)
some have remained here burrowed.<sup>98</sup>
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The poem integrates human, arboreal, and coleopteran enunciations. Not only a medium for the articulations of other beings, the tree is an active participant and contributing voice. In an interview, Gladding explains that the compositional process becomes collaborative as the poems begin to synthesize "what I understand about the way bark beetles make poems with what I understand about making poems myself."<sup>99</sup>

Like Gladding's Translations, Burk's Tree Talks, appearing in 2016, presents a series of encoded glyph-like patterns evocative of the inscription of plant neuroactivity on the smoked-glass plate of Bose's crescograph. Tree Talks comprises poem-transcripts of "unstructured interviews with 8 Southern Arizona trees," including pines and willows, who acted as participants in the poet's field-based study of "ethics, environment, politics, communication, and failure to communicate [between species]."100 The quasi-social-science approach is at once an earnest enactment of "multispecies ethnography," a "mock-ethnographic study," and "a satire on research methodology."<sup>101</sup> The poem-transcript titles consist of Latin and common botanical names followed by the location and time of the interview, as in "Salix gooddingii (Goodding Willow) / Patagonia-Sonoita Creek Preserve / 2010.07.24 11:50)."102 Onomatopoeia, capitalizations, brackets, parentheses, and ellipses, along with exclamation marks, full stops, semi-colons, em-dashes, and other punctuation, schematize the interviews yet signify "the inability of semiotics to decode environmental systems or point to the postconceptual."<sup>103</sup> The questions posed to the arboreal interviewees attempt to elicit insights into their experiences of time, place, ecology, each other, and the poet herself. In an interview with a One-Seed Juniper, the poet asks, "I was last here a little more than a year go. What's been happening around here since then?" To which the tree begins its reply with,

[thunder] S: BrrrrrNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN

Situating the individual subject within its heteroglossic collective, *Tree Talks* provokes the reconsideration of human tenets of voice and communication. The work affirms that writing the lives of plants in dialogue with them is predicated on a willingness to negotiate vegetal ontologies while remaining open to the potential for moments of interspecies breakthrough.

# Writing-With Plants: "Gorge: Scriptorium | Tree | Excubitorium"

I turn now to the phytographical poetry I have been composing in collaboration with the plants of the Northern Tablelands of New South Wales, Australia, a region known for its unusual elevation, plunge waterfalls, four seasons, and botanical diversity.<sup>105</sup> Largely cleared of its original vegetation since European colonization, the region comprises a network of gorges around which one of the earliest Anglo-European conservation systems in Australia developed. Although the plateau has been heavily modified by pastoral activity, the gorges remain sanctuaries for resilient plants. "Gorge: Scriptorium | Tree | Excubitorium" is a sequence exploring the idea of writing botanical lives in conversation with the plants themselves. Although some of the detail of the poems will remain opaque-especially for readers outside the Tablelands-"Gorge" represents an experiment in coauthoring with plants through a variety of techniques, including burying poems, mimicking plant sounds, and writing from the first-(plant)person perspective. The sequence reflects my immersion in the New England plantscape and development of close relations over time with particular plants and species.

In the title of the first part of the sequence, my use of the Latinate noun *scriptorium*—a place where monks transcribe texts—connotes the austerity, isolation, and ecological urgencies of the region's gorges. Yet, the term also suggests that the chasmic landscapes are loci of more-than-human linguae, in which plants write the scripts of their lives in the material strata of themselves and others—letters addressed to us, each other, and their divinities. I understand the gorges, then, as fundamentally linguistic topoi, constituted by vocabularies neither fully recognized nor

comprehended by humankind. In the radical-landscape mode theorized by Harriet Tarlo,<sup>106</sup> the poems of the first part, "Scriptorium," attempt to push boundaries of poetic form while remaining topographically specific. Precise locations and Global Positioning System coordinates supplied in Courier-font headlines serve ambiguously as titles locating the poems in a geographic sense while serving as rubrics for cataloguing site visits in non-poetic language. As in Gladding's *Translations* and Burk's *Tree Talks*, the translation between human and more-than-human languages proves replete with difficulties and uncertainties.

The second part bears the simple name "Tree." This de(re)generative midsection of "Gorge" consists of variations on the Petrarchan sonnet written-with chasms, plants, insects, soil, elements-cold, warmth, moisture, dryness-and the processes of decay. I chose the Petrarchan sonnet as the parodic vehicle for plant script in order to destabilize the humanistic tradition of the form. Centered on the page as textual bodies, the sonnets adhere to, yet often deviate from, the conventional Petrarchan form. "Tree" incorporates concrete visual arrangements, archaic language, taxonomic allusions, and glossolalic impulses to provoke linguistic dissolution and convergence. Toward the possibility of writing-with plants in response to their writing-back, I plant, compost, digest, and seed poems at New England gorges. Human-vegetal reciprocity emerges through the ceremonial earthing and unearthing-gorging and disgorging-of sonnets and poem fragments. An assemblage of seen and unseen chasm-dwellers works over the source sonnets. They contribute their own terms, connotations, inflections, syntax, marginalia, elisions, and deletions, which I then integrate into subsequent sonnets. The open-ended cycle fluctuates with seasonal conditions, soil moisture, insect activity, microbial digesting, human memory, and other processes.

An untitled sonnet beginning "Nor am eye mere spectacle" emerged when source poems fused to produce composite lines. Additional weeks of de(re)composing—and coauthorial fiddling—with a gorge hakea resulted in a poem opening with "A depth of death I am sans abandon," included below. Shunning the third-person narrative voice, the sonnets make use of the first-(plant)person mode of address. Endowing Tableland plants with cognition, perception, and emotion, the heteroglossic verses turn the critical gaze of canny plants back toward the human writer and reader. As such, the sonnet cycle joins contemporary phytographical work, such as Glück's *The Wild Iris*, narrated from the standpoint of vegetal beings and based on a view of botanical subjects as inherently conscious. As the plants express their interior lives liberated from the distancing function of the third person, the sonnets come to represent everevolving collaborative forays into the percipience of botanical lives: A depth of death I am sans abandon, as slanted sun soothes verbforms in tension, strokes blossom orchid hyphae elisions. Were dying greater than remiss of one? Were living lightened by the cease of none? The frosted morning foisted a sudden falling, nay to earth, tho' towards a coven of boulders. I hardened to their contours. To learn, I had to spruik their speech in death, advised as such to snatch tongue of lichen. Then you would grip a voice deprived of breath granted the grammar from here to liken. You discern my murmur within this cleft. We transit to death through lives alike in.<sup>107</sup>

Phytographical composting is an experimentation with more-than-human editing in order to introduce the voice(s) of vegetal nature into the poems. The degradation of the sonnets underscores their material basis and the heterogeneous relations of poems within Umwelten. Composting is also symbolic of poems as seeds—of hope, renewal, inspiration, and transformation. In this context, author-activist Rebecca Solnit comments that "writers understand that action is seldom direct. You write your books. You scatter your seeds. Rats might eat them, or they might just rot ... some seeds lie dormant for decades because they only germinate after fire."<sup>108</sup> The sonnet-seeds of "Tree" symbolize the restorative potential of human-plant alliances in a bioregion that has been widely devastated by colonization in the past two hundred years.

The title of the third section, "Excubitorium," refers to a place of poetic vigil and represents the coda of the "Gorge" sequence. In a church gallery, an excubitorium was the area "where public watch was formerly kept at night on the eve of a festival" and—in reference to medieval monasteries-the term denotes "an apartment for night watchers whose duty it was to call monks to their nocturnal devotions."<sup>109</sup> In relation to phytographical poetry, excubitorium evokes the prayerful vigil that plants hold over plateau ecosystems, as the photosynthetic fundament on which life depends. The obscure Latinate term conjures the monastic austerity of the chasms while also inflecting the technical language used to assign plants to families, genera, species, and other categories. This part of "Gorge" comprises three sonic movements organized around the three main tree species populating the rim of Dangar's Gorge near the town of Armidale: Gorge Wattle (Acacia ingramii), Gorge Bertya (Bertya ingramii), and Bulloak (Allocasuarina luehmanii). My phytographical method involved recording the soundscapes of the trees. I then composed the poems in response to their sonic environments:

Windriffed bloodtide whisk—crunk grasp flasp flisk

heartbeat crests gorge susurrus then smashes over us in arterial tides murmuring, slurs and swells saccadic, cardiac fibrillation then zipper twill. What meditative gunk is this? What do my tufts of tillandsia whisper?

Gorge rim soon to flower—*scrunch*—flick of Bic lighter, plastic click, feedback underheel, thump on drum skin, crescendo of interstitial rasp, *somebody's about to gasp*, polite formalities then interview ends, hasty handclasp. *My voice is a heteroglossic bird before you* [digital|*crash*].

At first, I was calm, but your inner tumult overtook me, I became withdrawn, reticent—*cough groan ugh*—crest-fallen, blind(in)sided, introspectively-drawn, revenant far blown-off, parasail glided, migraine lumbered, alone on this lip with the godless, quivering, grousing, muttering.

Lento, adagio, *I fall*, wind-knocked, -crisped, -asthmatic, in octaves of chalkboard scratch, freight trains rumbling on tracks, thunderclaps of waves over boulders, fermata, decrescendo, *I speak as a collective zephyr breath [yes I!]* fortissimo, ethereal vi(r)gi(l)n in G minor—diminuendo.<sup>110</sup>

There are instances where the words correspond to the audio signature of each species and become mimetic of the soundscapes of gorge plants. Although a playful enactment of the idea of plants writing-back, the poems do reflect theoretical developments in bioacoustics, an area of scientific research indicating that plants have voices, though radically unlike our own. Phytoacoustic research, for example, indicates that different species and individual plants emit specific sound signatures that enable them to make decisions and communicate with other organisms.<sup>111</sup> The ecological function of sound implies the presence of intelligence in the plant, which has been regarded in the Western intellectual tradition as the polar opposite of the animal—as passive, mute, and deprived of cognition.

#### **Conclusion: Phytography as Posthumanist Plant Life Writing**

In critical dialogue with botanical science, phytography on the whole offers insights into the lives of plants. As posthumanist life writing predicated on collaboration with, and receptivity to, plants, phytography also prompts the reassessment of the human preeminence within traditional auto|biography. It does so without privileging botanical communities and ecological systems over individual plants and vegetal personae. The nonfiction of Thoreau, Leopold, and, to various extents, Haskell and Wohlleben and the poetry of Lansdown, Glück, Gladding, and Burk demonstrate phytographical writing's nuanced attention to plant intelligence, behavior, corporeality, temporality, seasonality, emplacement, language, 116 🕳 J. C. RYAN

historicity, and mortality. In the phytographical model I have theorized, "the author and reader, and the relationship between these two, would not hold a privileged position, nor would the discrete entity of a text. Subjectivity would not be elided to emphasize human exceptionalism, nor would human language assume centrality."<sup>112</sup>

Phytography, as delineated here, hinges on the dialogical interplay between writing-with plants (collaboratively) and remaining vigilant to their writing-back (those material inscriptions through which they express their lives regardless of our textual or linguistic intercessions). I have suggested that the being-in-the-world of plants-increasingly articulated by studies of vegetal behavior, cognition, and communication-is a form of life writing in itself. The challenge for the phytographical writer is to recognize these expressions of language wherever plants are encountered. Nonetheless, in closing, I stress that the overwhelming emphasis within the widely ranging phytographies presented in this article is the arboreal. Although the work of Thoreau and Glück presents exceptions-the former, for instance, wrote also about the lives of cranberries and grapessmall trees, shrubs, and herbaceous plants are alarmingly absent. This could reflect the difficulty of engaging multisensorially with the lives of non-trees alongside the broader arborealization of Western thought called out by Gilles Deleuze and Félix Guattari in their theorization of the rhizome.<sup>113</sup> As all kinds of plants-not only trees-write the narratives of their own lives, the onus is on the human author to sense, listen, wait, and allow their voices to come forth.

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# Notes

- 1. See, for example, Chamovitz, *What a Plant Knows*; Haskell, *The Songs of Trees*; Mabey, *The Cabaret of Plants*; and Wohlleben, *Hidden Life of Trees*. Published in 2014 and set in southeast Queensland, Greer's *White Beech* should also be noted as an important contemporary example of plant-attentive place-based memoir weaving between history, botany, and feminist politics.
- 2. Wohlleben, Hidden Life of Trees, 1-5, 6-13, 19-24, 79-84.
- 3. Haskell, The Songs of Trees, 37.
- 4. See, for example, Karban and Orrock, "Judgment."
- 5. Audus, "Roots of Absurdity"; Baluška and Mancuso, "Plants and Animals," 285; and Green, *Secret Life of Plants*.
- 6. Bose, "Literature and Science."
- 7. Haskell, The Songs of Trees, 31-58.
- 8. Haskell, The Songs of Trees, 39.
- 9. Marder, Plant-Thinking, 183.
- 10. Huff, "After Auto, after Bio"; Huff and Haefner, "His Master's Voice."

- 11. Bennett, Vibrant Matter, xvi; Weik von Mossner, Affective Ecologies, 132.
- 12. Marder, Plant-Thinking, 183.
- 13. Baluška et al., "Neurobiological View of Plants," 20.
- 14. Gagliano, Ryan, and Vieira, "Introduction."
- 15. Dretske, "Machines, Plants and Animals," 25; Marder, *The Philosopher's Plant*, 148.
- 16. Wickens, *Economic Botany*, xiii. Even contemporary botanical writers have become ensnared in vegetal utilitarianism—valuing flora narrowly vis-à-vis its usefulness. As a case in point, Mabey's *Plants with a Purpose*, published in 1977, focuses on "the ways in which the commoner wild plants of Europe and North America have, and can, be put to fruitful and enjoyable household use" (12).
- 17. Mancuso and Viola, Brilliant Green.
- 18. Smith and Watson, Reading Autobiography, 4.
- 19. Ryan, Plants in Contemporary Poetry, 7-8.
- 20. See, for example, Haskell, *The Songs of Trees*, 31–58; Leopold, *A Sand County Almanac*, 8–17; and Thoreau, *Wild Fruits*, 74–92.
- 21. Smith and Watson, Reading Autobiography, 201-203.
- 22. Ryan, Plants in Contemporary Poetry, 7-10.
- 23. Huff, "After Auto, after Bio," 281.
- 24. Husserl, Pure Phenomenology, 52-55.
- 25. Miller, "The Entangled Self," 544.
- 26. Huff and Haefner, "His Master's Voice," 153.
- 27. Huff and Haefner, "His Master's Voice," 154.
- 28. Huff, "After Auto, after Bio," 279.
- 29. Huff and Haefner, "His Master's Voice," 159.
- 30. Arana, "Biography and Poetry," 116.
- 31. Arana, "Biography and Poetry," 117.
- 32. Abbs, "Autobiography and Poetry," 82.
- 33. Abbs, "Autobiography and Poetry," 81.
- 34. Abbs, "Autobiography and Poetry," 82.
- 35. Huff and Haefner, "His Master's Voice," 165.
- 36. Huff, "After Auto, after Bio," 279.
- 37. Glissant, Poetics of Relation, 193.
- 38. Huff, "After Auto, after Bio," 279.
- 39. Huff, "After Auto, after Bio," 280.
- 40. Huff, "After Auto, after Bio," 280.
- 41. Huff, "After Auto, after Bio," 280.
- 42. Krampen, "Phytosemiotics."
- 43. Qtd. in Krampen, "Phytosemiotics," 266.
- 44. Vieira, "Phytographia," 218.
- 45. Vieira, "Phytographia," 218.
- 46. Ryan, "Poetry as Plant Script," 127.
- 47. Gagliano, Ryan, and Vieira, "Introduction."
- 48. Rivas and Burghardt, "Crotalomorphism," 9.
- 49. Weik von Mossner, Affective Ecologies, 107.
- 50. Weik von Mossner, Affective Ecologies, 132.
- 51. Bennett, Vibrant Matter, xvi.
- 52. Bennett, Vibrant Matter, 99.
- 53. Rivas and Burghardt, "Crotalomorphism," 10.

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- 54. Leopold, A Sand County Almanac, 8-17.
- 55. Leopold, A Sand County Almanac, 8.
- 56. Watts, "Coda," 259.
- 57. Leopold, A Sand County Almanac, 8.
- 58. James, "What the Plant Says," 267.
- 59. Leopold, A Sand County Almanac, 10; emphasis added.
- 60. Leopold, A Sand County Almanac, 10.
- 61. Leopold, A Sand County Almanac, 10.
- 62. Leopold, A Sand County Almanac, 10.
- 63. Leopold, A Sand County Almanac, 15 and elsewhere.
- 64. Leopold, A Sand County Almanac, 17.
- 65. James, "What the Plant Says," 268-269.
- 66. Thoreau, Wild Fruits, 74-92.
- 67. Ryan, Green Sense, 13-40.
- 68. Thoreau, Wild Fruits, 74.
- 69. Thoreau, Wild Fruits, 74.
- 70. Thoreau, Wild Fruits, 78.
- 71. Thoreau, Wild Fruits, 78.
- 72. Huff, "After Auto, after Bio," 280.
- 73. Thoreau, Wild Fruits, 78.
- 74. Thoreau, Wild Fruits, 80.
- 75. Chamovitz, What a Plant Knows; Haskell, The Songs of Trees; Mabey, The Cabaret of Plants; Mabey, Plants with a Purpose; Wohlleben, Hidden Life of Trees.
- 76. Wohlleben, Hidden Life of Trees, 151–154.
- 77. Wohlleben, Hidden Life of Trees, 151.
- 78. Wohlleben, Hidden Life of Trees, 151.
- 79. Wohlleben, Hidden Life of Trees, 152.
- 80. Wohlleben, Hidden Life of Trees, 152.
- 81. Wohlleben, Hidden Life of Trees, 152.
- 82. Haskell, The Songs of Trees, 32.
- 83. Haskell, The Songs of Trees, 32.
- 84. Haskell, The Songs of Trees, 36.
- 85. Marder, Plant-Thinking, 183.
- 86. Huff, "After Auto, after Bio," 280.
- 87. Lansdown, Homecoming; Glück, The Wild Iris; Gladding, Translations from Bark Beetle; Burk, Tree Talks.
- 88. Lansdown, Homecoming, 8, lines 11-16; emphasis added.
- 89. Lansdown, Homecoming, 8, lines 17-23.
- 90. Glück, The Wild Iris, 1, lines 5-10.
- 91. Chamovitz, What a Plant Knows.
- 92. Glück, The Wild Iris, 1, lines 16-17.
- 93. Bervin and Gladding, "Three Dimensions."
- 94. Milkweed Editions, "Translations from Bark Beetle."
- 95. Bendall, "Secret Inscriptions."
- 96. Milkweed Editions, "Translations from Bark Beetle"; emphasis added.
- 97. Miller, "The Entangled Self," 544.
- 98. Gladding, Translations from Bark Beetle, 6.
- 99. Bervin and Gladding, "Three Dimensions."
- 100. Burk, Tree Talks, preface.

- 101. Kirksey and Helmreich, "Emergence of Multispecies Ethnography"; Russo, "Listening-Being"; Gessner, "The Synecological Poem."
- 102. Burk, Tree Talks, 21.
- 103. Gessner, "The Synecological Poem."
- 104. Burk, Tree Talks, 31.
- 105. Atkinson et al., High Lean Country.
- 106. Tarlo, "Introduction."
- 107. Ryan, "Gorge."
- 108. Solnit, "Acts of Hope."
- 109. Harris, Dictionary, 57.
- 110. Ryan, "Gorge."
- 111. Gagliano et al., "Tuned In."
- 112. Huff, "After Auto, after Bio," 281.
- 113. Deleuze and Guattari, A Thousand Plateaus.

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