

The Forest for the Trees: The *umwelt*, the holobiont, and metaphor in Richard Powers' *The Overstory* and Shakespeare's *Macbeth*

Timothy Ryan Day
Saint Louis University, Spain
timothy.day@slu.edu

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Abstract

This work of ecocritical narrative scholarship weaves analysis of Richard Powers' *The Overstory*—specifically its invocation of Shakespeare's *Macbeth*—with a discussion of biosemiotics, metaphor, emergence, and the narrative of my own family's pandemic-inspired move to a national park in the mountains outside of Madrid. The essay investigates the juncture between the human holobiont—the space in and around the human body that constitutes shared habitats for symbionts—, the holobiont of pine trees, and the human *umwelt*. In other words, this piece focuses on the spaces in which bacteria, fungi, and the biological origins of semiosis and language converge. I seek to present a clearer perception of the natural world rooted in narratives of emergence that foreground connections—literary, natural, metaphorical, and material. The form of this paper—the latticework that emerges from the interweaving of literary analysis, biosemiotic and ecocritical theory, and personal narrative—is also part of its content. Through its focus on the intersection of narrative, biosemiotics and material ecocriticism, this work calls into question the very nature of literary metaphor and investigates how the material of literature literally ties us to our environment. Through an exploration of the phenomenological parallel between textual motion in literature, viral motion in nature, and the movement of people through natural and social environments, this document challenges the very idea of metaphor, proposing in its stead an insistence that story, consciousness, and organisms converge in the same material space creating patterns of resemblance that speak to the kinship of all biological systems.

Keywords: Biosemiotics, mind, metaphor, Shakespeare, mycorrhizae, emergence, ecocriticism, narrative scholarship, holobiont.

Resumen

Este trabajo de narrativa ecocrítica y académica entrelaza el análisis de la obra *The Overstory* de Richard Powers—específicamente su invocación del *Macbeth* de Shakespeare—con una discusión sobre biosemiótica, metáfora, emergencia y la narrativa de la mudanza de mi propia familia, inspirada por la pandemia, a un parque nacional en las montañas de las afueras de Madrid. El ensayo investiga la coyuntura entre el holobionte humano—el espacio dentro y alrededor del cuerpo humano que constituye hábitats compartidos por simbioses—, el holobionte de los pinos y el *umwelt* humano. En otras palabras, esta obra se centra en los espacios en los que convergen las bacterias, los hongos y los orígenes biológicos de la semiosis y el lenguaje. Trato de presentar una percepción más clara del mundo natural enraizada en las narrativas de la emergencia que ponen en primer plano las conexiones—literarias, naturales, metafóricas y materiales. La forma de este artículo—el entramado que surge del entrelazar el análisis literario, la teoría biosemiótica y ecocrítica y la narrativa personal—es también parte de su contenido. Al centrarse en la intersección de la narrativa, la biosemiótica y la ecocrítica material, este trabajo cuestiona la naturaleza misma de la metáfora literaria e investiga cómo el material de la literatura nos ata literalmente a nuestro entorno. A través de una exploración del paralelismo fenomenológico entre el movimiento textual en la literatura, el movimiento viral en la naturaleza y el movimiento de las personas a través de los entornos naturales y sociales, este documento desafía la idea misma de metáfora, proponiendo en su lugar una insistencia en que la historia, la conciencia y los organismos convergen en el mismo espacio material creando patrones de semejanza que hablan del parentesco de todos los sistemas biológicos.

Keywords: Biosemiotica, mente, metáfora, Shakespeare, micorriza, emergente, ecocrítica, narrativa académica, holobionte.

"Ecocriticism without narrative is like stepping off the face of a mountain—it's the disoriented silence of freefall, the numb, blind rasp of friction descent." (Scott Slovic, "Ecocriticism with or without Narrative")

"Evolution is systems (organism-in-environments) education." (Wendy Wheeler)

Perhaps it should be stated at the outset of this paper that I share Scott Slovic's opinion that "the goal of narrative scholarship is usually not to highlight the unique subjectivity of the scholar, but rather to use the seemingly subjective language of story as a scaffolding to reveal a shared human experience of ideas, texts, social realities, and the physical world" ("Narrative" 318). The current narrative is about the nature of narrative itself and its material significance in the evolution of cells into bodies who turn around and tell stories of their own. It is about the tumbling of matter into story, and the reciprocal push of story into environment. It is a narrative launched from the collision of a virus, a pine tree, scientific insights about the porosity of bodies and knowledge, and two texts, Richard Powers' *the Overstory* and Shakespeare's *Macbeth*, that speak to each other across four centuries, illuminating the path of human thought about nature's vitality and the relationship of human consciousness to material world with which it is bound.

During the early days of the pandemic, Spain was home to one of the world's most restrictive lockdowns. People were prohibited from going outdoors except for absolute necessities. At the end of 10-weeks confined to a small apartment with our two-year-old son, my wife and I left Madrid behind for a house with a yard in a pueblo in the mountains an hour north of the city. The lone tree on the mountainside above our new home was one of the first things we noticed as we moved in. The tree, and the stories that it harbored from its vantage overlooking four centuries of life in the Sierra de Guadarrama, intermingled with the texts I was reading, the emotional experience of the pandemic, and the emerging scientific understanding of the world as a porous place pervaded by communication at every level. During our first encounter, however, it was just a striking vision: a massive tree, alone on the face of a mountain. Its solitude was an illusion, of course. The tree was part of an ecosystem, and therefore vulnerable to fire, blight, predation. It was part of a history, and therefore vulnerable to human expansion, warfare, unintended consequences of agricultural activity. The tree's solitude became a sort of metaphor for the distance we sought as I began to think of our move in terms of the virus, and in turn to see the virus as an integral piece of our ecosystem as it defied the illusion of the human holobiont as a thing discrete from the rest of nature. In her discussion of the vast extension of symbiosis across biological systems, Lynn Margulis defines a holobiont as a "symbiont compound of recognizable bionts", and a biont as an "individual organism" (Margulis 2). Her argument, in effect, is that symbiosis is not the exception in evolutionary systems, but the rule, and that change ultimately occurs because of the ability for

individual bionts—organisms—to exchange genetic information, nutrients, and a mutually constructed phenotype.

"Look at that," I said pointing to the top of the hill where the pine stood apart from the tree line. I was teaching *Macbeth* at the time of the move. I thought of Birnam Wood, whose dismembered branches disguised Malcom's soldiers creating the illusion that the forest itself advanced on Dunsinane Castle and validated the augury of the witches on the heath in what amounted to the resolution of a riddle. I became aware of how quickly I passed from an experience of the material world, to one that was narratively mediated. I stepped off the biosphere and into Jacob Von Uexküell's *umwelt*, a place where the body of a tree—already a genetic, and therefore textual, body—coagulates with the stories that inhabit it.

"Tree!" shouted our son, less distracted by digressions into literary trains of thought.

"Vaya," said my wife.

In part, this was why we'd come. We wanted him to be near these things—mountains and trees—as he formed his ideas of the world. When I was 12 my mom moved us from Georgia to Chicago. In the intervening years I had become a city-dweller with the zealous passion of the converted. I was convinced that our family would stay in the city, or a city anyway. I think my wife was too. She was born in the Dominican Republic, but had lived in Murcia, a city in the South of Spain, since she was 8. We both moved to Madrid in our mid-twenties. Our son was born in Madrid. He is part of a new generation of Spaniards many of whom are the children of immigrants, growing up during a massive demographic shift across the country as people from Asia, Latin America, North Africa, and the Middle East change the makeup of the country. According to the Instituto Nacional de Estadística, of the 6,853 people who live in our new small-town home, Cercedilla, full time, 5,956 were born in Spain and 897 were born abroad. Of those nearly 900 foreign born, they are nearly evenly divided between European, American, and African countries of origin. There are 36 people who were born in the Dominican Republic, and according to the obviously flawed statistics, no US born residents. What accounted for this movement, for this uprooting of lives and reseeding in homes often on the other side of the globe? Did it have anything to do with conscious intent, or was nature filled with Macbeth's "sound and fury signifying nothing"? Were we all merely reacting to our environments and narrativizing the decisions after the fact?

In some sense, the question I was asking was that of where the individual begins and ends with in the context of the collective, but not *just* the human collective, rather the collective of all animate matter. What we perceive as a discrete body, an individual, might be more accurately described as host to millions of microorganisms that play a role in constituting the whole. But, the body also extends beyond the limits of its skin, relying on organisms in its surrounding environment to thrive. Bodies, and the biomes they house, are a cascading series of interpenetrating communities. In fact, the rise of eukaryotes, like humans, is largely due to the code they were able to purloin from their prokaryotic forerunners. This is intertextuality at the biological level. I do not intend for that to be read as metaphor. The material ancestry, the DNA, of what will become the capacity for

language and literature was always already a text to be read, interpreted, and performed, and it was always a text that was written from a symbiotic space that bridged the bacterial and the mammalian. The exodus from cities around the world of which our move formed part was not something that could be understood without taking the microbial—or the viral—into account. In writing *Macbeth*, Shakespeare did not have such notions as the *umwelt* and the holobiont at hand, nonetheless the agency of nature, the contingency of human intention on a vast array of natural phenomena, and the space in which consciousness and material coagulate into experience, were close to at hand.

In the Introduction to the innovative collection *Arts of Living on a Damaged Planet* the editors Elaine Gan, Anna Tsing, Heather Swanson and Nils Budandt, present the idea of “Haunted Landscapes of the Anthropocene,” or “the vestiges and signs of past ways of life still charged in the present” (1). These haunted vestiges can include rubble, garbage dumps, seeds whose symbionts or pollinators have gone extinct, or characteristics in currently thriving plants that evolved to suit—or evade—long extinct species. The book forces the reader into the logic of deep time even as they look around at their present landscape which can help us counteract the “shifting baseline syndrome,” which the authors describe as what happens when “Our newly shaped and ruined landscapes become the new reality” (6). We should perform the same analysis on the landscape of our consciousness, our *umwelt*, which, of course, is never really an entity apart. The continuum of time makes it impossible to cleanly divide past materials from present—or even future—ones. Likewise, Margulis tells us that it is hard to know where the text of one body ends and that of the next begins. Bacteria coexisting with RNA may have penetrated the molecular structure and paved the way for the DNA that *writes* the bodies we inhabit, *that encodes them in language*. And the human body, the eukaryote at the center of the human holobiont, is a space where countless systems and organisms come together into a functioning universe. The many viral and bacterial systems to which we play host, and which play a critical role in maintaining our health, and which make up substantial parts of our mass—the microbiome of the gut, for example—all come together to create a whole human organism that we often—and perhaps erroneously—perceive as an autonomous self. It is from within this context that it is, for me, so tempting to think of literature as part of the human holobiont: a material extension of the genetic code that has written us over generations. It is tempting to think that the cultures we carry are part of the diversity that makes us strong as a species, and that this new Spain of which my family forms part and which is made of people like us carrying stories from around the globe to far flung villages, will ultimately lead to a stronger human superorganism. Much like the extension of the human holobiont beyond the visible limit of our skin, the extension of our *umwelt*, which Uexküll defined as a species-specific linguistic habitat, extends beyond the visible limits of any text, of any border, or of any other material artifact of culture. In other words, the holobiont and the *umwelt* describe emergent webs, mycelia if you will, that extend between the visible outcroppings of our cultural reality that too often remain invisible. If only we could *perceive* the reality of our interdependence, we could learn to focus on the strengths of our interconnectivity, our kinship with all biological life.

The move did not feel like a decision. It was just an event that slowly became inevitable. A notion invaded both my wife's mind and my own as we spent nearly three months shut inside a small apartment during the quarantine. I don't remember which of us planted the seed: *We should move to the mountains*. But, like Banquo's "seeds of time," once planted it grew, and on the first day the lockdown ended we found ourselves having lunch in Cercedilla, the last stop on the commuter train to the Sierra de Guadarrama, the mountain range to the north of Madrid. A few months later, we had found a house, a school, and finally ourselves at the base of a pine covered mountain, La Peñota, populated with cows, sheep, and on the weekend, hikers escaping the city. The city's population grew by nearly 10% when the pandemic ended. I read articles about people fleeing New York, San Francisco, Paris, and London for more remote locations. It was a global phenomenon. We were part of an exodus, a large-scale migration of professionals with the luxury to work at home, from urban centers to rural areas in the wake of COVID-19. It was an unconscious statistical migration brought on by an invisible infectious agent. As I read about the legions of people around the globe who had made a move like ours, I did not see the results of conscious deliberation. I saw the retroactive narrativization of the heedless reaction to this new textual entry into the human holobiont. Did the decision lie with us, with the virus, or somewhere in between?

At once a symbol of nature's agency and a refutation of the supernatural, the marching of Birnam Wood is one of the great paradoxes in Shakespeare's works, which firmly roots the pagan-infused illusion of a pantheistic nature in the mundane human discipline of a military strategy. The question the play seems to pose again and again: How can we approach the liminal space between the agency entailed in human consciousness and the utter dependence of human subjectivity on the natural phenomena which inscribe experience? I was spending more time in the woods—hiking in the pine forests—than I had since I was a child in Georgia. I had taught Richard Powers' *The Overstory* in the previous semester, and the book had stuck with me, deepening insights that I first gleaned years prior from Michael Pollan and Bruno Latour. In the *Botany of Desire*, Pollan showed his readers how plants learned to coopt human agency for their own evolutionary ends, and in so doing calls the primacy of human subjectivity into question: "Our grammar might teach us to divide the world into active subjects and passive objects, but in a coevolutionary relationship every subject is also an object, every object a subject. that's why it makes just as much sense to think of agriculture as something the grasses did to people as a way to conquer the trees" (xxi). In *We Have Never Been Modern* Latour set about retying what he describes as the "Gordian Knot": "That a delicate shuttle should have woven together the heavens, industry, texts, souls, and mortal law—this remains uncanny, unthinkable, unseemly" (5). Somewhere along the way we began to imagine the continuous as discrete. The mystery of the marching wood, ultimately, does not lie in the marching of the wood itself, but in the curious ability of the Weird Sisters to narrativize the way that nature will be manipulated to offer *the appearance of* the supernatural. Human agency is questioned as the subject becomes the object of nature, of textual augury, and of the seminal emergence implied by Banquo's "seeds of time." The witches embody what is a decidedly anthropomorphic supernatural, one that allows a glimpse of

an agency that moves beyond the human, even as it remains rooted in the comforting home of the human body. They are both familiar and strange, both human and more than human. The whole of the mystery created by the witches' prediction and the all too worldly mechanism that leads to the seeming magic of a marching forest sits uncannily between the human and the more than human, as if Latour's "heavens, industry, texts, souls, and mortal law" are indeed all spun together. The trees rely on human will to march, but the prediction itself still alludes to supernatural events. It is no surprise then, that 400 years later, on the other side of the enlightenment, Richard Powers returns to just this scene from Shakespeare's play as he constructs a text dedicated to the complex and unwieldy juncture of human agency and the agency of nature, particularly our currently unfolding notions of the intelligence of forests and how they force us to question our own cherished idol of the subjective human self. As Pollan and Latour point out, that agency is a shared thing, existing somewhere between human will and the botanical, animal, or even inanimate. The augury is both human and more than human.

The marching of Birnam Wood has recently received plentiful attention by ecocritics studying the liminal space between human agency and the networks with which it is enmeshed. There is something confounding about this scene's complication of the relationship between myth, human will, and the agency of nature—simulated or otherwise. Randall Martin describes an imbalance brought on by Macbeth's excesses which is restored through Malcolm's temperance. In the chapter "Gunpowder, Militarization, and threshold ecologies in *Henry IV Part Two* and *Macbeth*" from his book *Shakespeare & Ecology*, Martin describes Malcolm's use of Birnam Wood as representing a sort of sustainable ecology: "...Malcolm's order to cut only 'a bough' from Birnam's trees indicates a limited rational use rather than clear-cutting." He goes on to write that "Malcolm might be seen as a kind of conservation biologist in Birnam, making a necessary but controlled intervention to regenerate a landscape that has been savagely degraded by Macbeth's savagery" (110). Steve Mentz writes about a nature whose wildness is a constant reminder that it preexists the human: "The forests of Scotland to the 'blasted heath' where the Weird Sisters gather, define the green world of *Macbeth*. To rule this kingdom requires engaging a land in which, to borrow the phrase Robert Pogue Harrison adopts from Vico, the forests were *first*" (86). Referring more generally to Shakespeare's body of work, he writes,

The plays create for a brief shared time and space an imaginative world that follows its own rules. Inside the charmed circle, the boundary between "art"—things created by human ingenuity and technique—and "nature"—the physical landscape into which we are born—ceases to hold. The art-nature distinction becomes flexible, textured, and subject to poetic play and refiguring. It's like crossing over without leaving our seats. We dive in without getting wet. (84)

While Mentz points to the artifice of a space in which the inside and the outside of whatever we define as human are allowed to hover in one another's vicinity without completely collapsing, Nicholas Ciavarra points out that despite a tendency for Shakespeare to represent forests as liminal spaces, in early modern times "outside of the cities, thousands of citizens lived near or within wooded regions and forests" (95). "For many," he goes on to say, "the forest was not a deserted space but their life and livelihood"

(95-6). And then, “Despite our modern sense of cities as antithetical to wilderness, early modern London was very much a wooden space” (96). Michael Lutz reads the scene through the lens of Latour and the Vital Materialism of Jane Bennet: “Indeed, we have only to remember the famous scene of Birnam Wood marching on Macbeth’s Dunsinane to realize how the play refuses to reduce the landscape of Scotland to what Bruno Latour would call ‘mere stuff’” (197). This is by no means an exhaustive list of recent ecological approaches to Shakespeare’s scene, but it does go to show, along with Powers’ own literary engagement with Birnam Wood, that this strange conflation of human agency, with the invocation of witchcraft and animate nature, continues to demand our attention—perhaps demands it more than ever—after four centuries.

Of course, *Macbeth* is far from unique in Shakespeare’s body of work for its exploration of the liminal zone between nature and culture. It is a virtual obsession and one of the primary engines of Shakespeare’s sustained ability to engage audiences across the centuries. Prospero’s books are a notable example of human knowledge having the capacity to manipulate the natural world, while the hallucinogenic juice from Puck’s flower is a botanical example of nature’s capacity to infiltrate and alter human minds and emotions. References to Ovid’s Daphne in *Titus*, or to Midas in *The Winter’s Tale*, or even to the Minotaur in *Hamlet*, remind the reader that pagan notions of nature are still powerful cultural narratives in Shakespeare’s time and our own. For all our obsession with the subjective self, the scientific method, and modernity in general, our narrative selves are never quite capable of escaping a basic intuition that we might not be as separate as we would like to imagine. Again and again the *umwelt* leads us back to anxieties about the holobiont and the skepticism that it implies towards anything like a discrete embodied self. Humans are not nature’s likeness, but nature itself. Anthropomorphizing is an impossibility because we are identical with the object of our gaze. What we fail to do, is to recognize ourselves in the mirror of the world. In her article “Delectable Creatures and the Fundamental Reality of Metaphor” Wendy Wheeler argues that metaphor itself is not so much an abstract connection between two dissociated entities that exists only in the mind of the observer as the material remnant of some evolutionary connection which is not so exclusively human as we might wish:

We tend to think, carelessly, of metaphor as not real (as in “it’s only a metaphor”), but what we call metaphor seems to me to be a most basic aspect of living things. Metaphor describes the case where one function (‘meaning’) is able to bear the weight of another function, which it can then carry, because they are sufficiently similar. Whether in biology or in language, the temporality of evolutionary process lies in the fact that the new always derives some elements of the past (or what already exists) which are creatively recombined.

She discusses the need to embrace Peircean abduction—a playful alternative to induction and deduction that allows for surprising and poetically emergent conclusions—in pursuit of a “night science” that might allow us to engage not only our rationality and methodology, but also our intuition and spirituality broadly defined:

Our modern mistake has been to believe that only what is consciously known and measurable is real. We so-called moderns think that ‘faith’ and ‘belief’ belong to misguided human reason and rational error. But the states of mind which involve ‘faith’ and ‘belief’ clearly belong to the ‘mind’ of all sensuously responsive living things. ‘Faith’ and ‘belief’,

the real life of affect and intuition (which we like to designate as animal instinct from which we have more or less escaped), are in fact, clearly absolutely fundamental to normal human reasoning.

Superstition, religion, spirituality, and a visceral awe before the sublimity of nature, keep coming back to remind us that we are, despite the best efforts of our impressive intellectual and technological efforts, completely interwoven with the world in our midst. In short, the *umwelt* reminds us that it is steeped in what Serenella Iovino has called “porosity,” as it constantly traverses and is traversed by the holobiont. Iovino writes, “And it is this interplay that makes all bodies, from atoms and molecules to assemblages and collectives of humans and nonhumans, permeable to the world. This porosity occurs at many levels, both material and semiotic...” (101). Bodies and minds rely on each other for their mutual creations. Texts are environmental forces. The *umwelt* needs the holobiont, arises from it, feeds back into it as they mutually create all the material that is consciously perceived.

Richard Powers’ novel *The Overstory* is steeped in an awareness of Latour’s “delicate shuttle”, Iovino’s “porosity”, and Wheeler’s “Night Science”, as he invokes Shakespeare repeatedly in eight stories of how trees move individuals towards activism, of how nature co-opts the willpower of humans to coerce them into doing its bidding, leaving us with the question—the same question that sits at the center of *Macbeth*—where does agency really exist and what does it have to do with the creation of a better world? And maybe more to the point, a better world for whom? For the individual, for humanity as a whole—what Wendy Wheeler calls *The Whole Creature*—, for the myriad animal species that inhabit the planet, or for the balance of all the forces and beings in the natural world that we have come to refer to as Gaia? Any contemporary notion of nature, and its connection to consciousness and intention, must contend with complexity inherent in current understandings of physics, biology and the neuroscience that weaves itself into our vision of the subject as it wanes from its position at the center of our approach to nature. *Emergence is a literary matter, as much the material of poetry as biology or physics.*

Where Wheeler writes about the slippage from the individual human consciousness to the species-wide superorganism of the “Whole Creature,” Merlin Sheldrake explicitly challenges the juncture between animal and plant by demonstrating that the likeness between mycelia and neural networks may be more than mere metaphor. In his book *Entangled Life*, Sheldrake presents the possibility of fungal computers based on the mycorrhizal networks that traverse forest floors that outperform our current capacity before writing:

Traditionally, intelligence and cognition have been defined in human terms as something that requires at least a brain and, more usually, a mind. Cognitive science emerged from the study of humans and so naturally placed the human mind at the center of its inquiry. Without a mind, the classical examples of cognitive processes—language, logic, reasoning, and recognizing oneself in a mirror—seem impossible... For many, the brain-centric view is too limited. The idea that a neat line can be drawn that separates nonhumans from humans with “real minds” and “real comprehension” has been curtly dismissed by the philosopher Daniel Dennett as an “archaic myth.” (Sheldrake 65)

Sheldrake's mycological inquiries, informed by Suzanne Simard's notion of the Wood Wide Web—the rhizomatic network of mycelia that pass neurotransmitters across root systems beneath the forest floor—lead him through a careful analysis of botanical communication to a skepticism towards the peculiarity of the human mind. Where Wheeler, invoking biosemiotics in the tradition of Jesper Hoffmeyer, Thomas Sebeok, and Jakob Von Uexküll, draws evolutionary connections from the cellular, through the animal, to the human, Sheldrake extends the same line of thought to encapsulate the fungal. Where Shakespeare had to rely on a tactical trick to represent the agency of nature, scientists like Simard and Sheldrake have paved the way for Powers to speak more literally about the agency of trees. His only trick is to lend the trees the persuasive power of human language.

Into the midst of this evolving matrix of animal, fungal, and arboreal ideas with which Powers is clearly engaged, marches the metaphor of an advancing forest. *Macbeth* first appears explicitly in *The Overstory* in the chapter about Mimi Ma. In 1948, as the communists approached, Mimi's father Sih Hsuin, a Hui Muslim trader, was forced to escape Shanghai, and his father's successful business on Nanjing Road. As his father prepares the young engineering student for his trip to the United States, he gives him three jade rings and a scroll. The rings are carved with images of landscapes. His father tells him "You live between three trees. One is behind you. The Lote—the tree of life for your Persian ancestors. The tree at the boundary of the seventh heaven, that none may pass. Ah, but engineers have no use for the past, do they?" (26). Handing him the second ring, he says "Another tree stands in front of you—Fusang. A magical mulberry tree far to the east, where they keep the elixir of life" (26). Finally, he offers him the third ring, saying "The third tree is all around you: Now. And like *Now* itself, it will follow wherever you go" (27). After giving Sih Hsuin the rings, he unrolls a scroll with the image of three men. His father tells him that the men are "*Luohan*. Arhat. Adepts who have passed through the four stages of Enlightenment and now live in pure, knowing joy" (27). The three rings and the three arhats clearly become stand-ins for the wayward sisters, a connection that becomes explicit when the elderly Sih Hsuin becomes obsessed with the Verdi opera version of *Macbeth*, but here Powers has given them a very different hue. They do not appear tinted with the darkness and witchcraft we tend to associate with the sisters, but with wisdom and a spiritual magic that is associated with nature's grandeur and beneficence. Here, the witches are wisemen who have cultivated their spiritual centers, honed their connectivity to the natural world, become "enlightened" and as such have wisdom to pass on. This is a radical re-reading of the witches from *Macbeth*. The witches are often connected to a pagan tradition, and thus with the wildness of the heath, but rarely has their witchcraft been interpreted as the result of a virtuous relationship to nature. Here, the witches' ability to see what Macbeth cannot, is not a result of black magic, but meditation, presence, and a sense of being tuned in to the messages being communicated from the physical world. It is the Macbeth's failure to read the signs all around them, their misconception that they are somehow separate from hierarchies and social intricacies that generates the dramatic rupture in nature. They cannot perceive, or refuse to, their own integration with the world beyond their bodies and consciousnesses.

The tree that we spotted that first morning on the side of La Peñota is visible from my son's bedroom window. It is the oldest and largest of los Pinos Silvestres which cover the mountainside to the North and East. It is set apart from the wide swathes of white and green that are the snow-covered pine forest carpeting the mountain. It is the lone tree on the mountain's southwest face, covered in patchy mazes of green grass and thorny brown branches of blackberry brambles, grazing land where cows and sheep wander. We noticed the tree as we read our son bedtime stories each night. Once he had fallen asleep, the silhouette of the tree against the moonlit mountain was a sort of nightly meditation on the isolation of our new surroundings. From below the tree does not look particularly big, but as it turns out it is possibly the largest pine in all of Spain. El Pino Solitario, or "the Lonely Pine" is a local fixture. I walked along the base of the mountain, beneath the tree, each morning on my way to the train station and each evening when I returned. Sometimes it looked as if El Pino Solitario was a lone soldier confronting a legion of pines that might have advanced over the peak at any moment. Other times it looked like a stoic orator, speaking to the assembled masses. Others still it looked like a hermit who had wandered away from the crowds for a better view of the valley beneath the mountain. Without trying to, I found myself looking up to it each day, staring into it as if returning to a conversation that we'd left unfinished the previous evening. It was a conversation about time. The tree reminded me of all the things it had witnessed, perched above the valley for over 350 years amidst the unfolding of the human *umwelt*. It had also seen the decimation of its kin—and much of the pine holobiont that pervaded the mountainside—in a fire in the nineteenth century. The tree was probably seeded sometime soon after completion of Felipe II's monastery at El Escorial while Spain was still an imperial power. It was a sapling as the Hapsburgs passed to the Bourbons, and already 200 years old with establishment of the first republic in 1873. Fortifications used by Franco's forces during the Spanish Civil War still dot the mountainside beneath the tree. Ernest Hemingway, Martha Gellhorn and John Dos Pasos may well have looked on it when they came to the Sierra de Guadarrama during the war. El Valle de los Caídos, or The Valley of the Fallen, which served as Franco's tomb until he was recently exhumed and moved to a family plot in el Pardo, is visible from the tree's vantage. In *Underland* Robert Macfarlane compares the Sierra de Guadarrama and its history to that of the northern Scotland that would have been familiar to Macbeth: "I have walked through numerous occulting landscapes over the years from the cleared valleys of northern Scotland, where the scattered stones of abandoned houses are oversung by skylarks, to the Guadarrama mountains north of Madrid, where a savage partisan war was fought among ancient pines, under the gaze of vultures..." (230-1). Staring up at the tree is a reminder of how short a time we will spend in this valley, even if we stay for the rest of our lives. It is a reminder of how much more of the story the tree will witness than we will. The awareness of that brevity ought to breed kindness and intent in the way we live.

We can infer *Macbeth's* presence in Powers' novel right from the outset. The novel begins almost biblically: "*First there was nothing. Then there was everything*" (3, cursive in original). Then, a paragraph later after introducing a woman who sits in a park taking in

the nature that is unfolding all around her, Powers writes, “*Signals rain down around her like seeds*” (3). The chapter that follows, the story of Nicholas Hoel and his antecedents, is a story about seeds that are planted and the trees that grow from them alongside generations of Hoels. The steady progress of the tree across a century and a half is juxtaposed against the short lives of the Hoels who watch it grow. All of this calls to mind Banquo’s famous line in *Macbeth* when he speaks to the witches, “If you can look into the seeds of time/ And say which grain will grow and which will not,/ Speak then to me, who neither beg nor fear/ Your favours nor your hate” (1.3.56-9). The metaphor is a clear one: the unfolding of time, of a life, is similar to the incalculable potential for the complex emergence of a plant from a seed to veer from any predictable path. We can assume to a degree of certainty that a plant will issue from the seed and even the type of plant it will be, but not exactly how tall it will grow, how many leaves or flowers it may have, in which direction it will reach, what weather will greet it, what bacteria or pests it may encounter, etc... In short, there are many branches on the tree of time and each arises from a set of factors so immense as to seem random. But, when Powers says that “signals rain down around her like seeds,” he seems to be looking at the inverse of Banquo’s dilemma about time’s unforeseeable emergence. He is implying that there is a message in the unfolding of nature, that there is a story being told by the seeds and signals. They are not arbitrary, but legible. He is flying in the face of Macbeth’s famous line at the end of the “Tomorrow and tomorrow and tomorrow” speech, that life is “a tale/ Told by an idiot, full of sound and fury,/ signifying nothing” (5.5.25-7). Rather, all of nature is meaningful in ways that exceed the human capacity or need to understand. Narrative is not something uniquely human, rather it is all around us, there for us to bask in, enjoy, appreciate, and play with. It might be that narrative can only be described as “signifying nothing” when it is isolated from its totality and forced into the context of human consciousness and its desires—and probably not even then. If we choose to ignore the more than human for all the ways it fails to resemble us, we dissolve into egocentrism, connection becomes impossible, and meaning evades our perception, trapping us in the same solipsistic stories about our exceptional—solitary even—species. Of course, Shakespeare’s audience was probably already meant to read *Macbeth* as a character whose relationship to nature was desperately flawed, and as such we should not take his nihilist rant as truth, rather as a reflection on where his tyrannical bent on power led his own subjective experience. The difference in Powers’ version lies more in its attitude towards the natural world, which is full of mystery, magic, and the constant transmission of signals, but avoids giving in to the irrational fear of the supernatural potentials of nature that was endemic to Shakespeare’s time in which King James—a famous proponent of witchcraft conspiracy theories—wrote a book, *Daemonologie*, on the dangers presented to society by witches. In Shakespeare’s play, the voices of nature follow a Cartesian model, serving principally to bewilder and confuse, whereas in Powers’ novel, the signals coming from the natural world can lead us to balance, if we are willing and able to listen. This is clear nowhere more than when the customs agent opens Hui’s trunk upon landing in San Francisco and asks him to unroll the scroll with the patenting of the Arhat’s. “Who are they?” The agent asks Hui. He replies: “Holy People.” “What’s wrong with them?” She asks. “Happiness. They see the true thing.”

She asks him what the true thing is, and he struggles to put it into words before saying, “The True Thing mean: human beings so small. And life, so very big.” Macbeth’s mistake is to take himself, his advancement, too seriously, to think that nature is at all concerned with his advancement. The forest will not move to stop him. Only humans would deal in such petty timeframes. However, this is not to say that nature is not communicating, teaching, playing. It is, and if we listen from a place of humility, we may learn.

The Overstory explicitly explores our nascent understanding of the ways that symbiosis between rhizomes and mycelium leads to a sort of semiosis, both in cultural and botanical contexts. The character of Patricia Westerford—who is based on the real-life professor of forestry, ecologist, and author Suzanne Simard—has dedicated her life to understanding the ways that trees communicate. Aided by professional alienation from her fellow PhD’s in forestry, a father who died young only after planting in her the narrative seeds of humanity’s mythological and pulmonary dependence on their arboreal companions, and a tendency towards the solitary that may be in part the result of her hearing loss, Patricia is given to understand trees as complex beings. She studies Mycorrhizal networks, in which plants and fungi mutually benefit from a symbiotic relationship which allow trees to send signals across the forest floor. A pine forest, for example, will have an abundance of fungi in its rhizosphere, its root system, which it can use to transfer nutrients and water from one section of the forest to another, and even to emit enzymes that might help fight off unwanted pests or disease. The forest, it turns out, is not a collection of trees, but an entity unto itself.

The human holobiont is a material notion aimed at an understanding of all the organisms that swirl in our orbit, making us stronger, making us functional, benefiting from our skin, our organs, the controlled atmosphere of our homes and our bodies. But, as *the Overstory* shows us, all the bodily complexity that constitutes a holobiont is also host to an informational system—an *umwelt*—that has crossed generations, oceans, and continents, bringing us closer, perhaps to what Stacy Alaimo has called trans-corporeality, a concept that Serenella Iovino and Serpil Opperman have described as “the transit of substances and discursive practices within and across bodies” (4). Alaimo writes that “the time-space where human corporeality, in all its material fleshiness, is inseparable from ‘nature’ or ‘environment,’ offers a critical lens that unites the body to its environment, creating a material bond between subject and the world” (238). Our shared narrative habitat (our *umwelt*) has persevered through wars, plagues, and famines, swirling in our midst as a reminder of our mythological/literary/spiritual connection to story. Above all, our cultural history has been a migratory phenomenon, one in which unexpected encounters have had the potential to lead to expanded horizons and an ever-increasing richness, not that we have always or even most often cultivated that potential. Powers exerts much energy towards showing us how the roots of the trees are intertwined with our own metaphorical roots, and the complex he creates is at least as literary as scientific. We are tied to trees by genes, by personal history, by a symbiotic relationship between our need for oxygen and theirs for carbon-dioxide, by shared mental and physical space, by Ovid, and yes, by Shakespeare. The human holobiont is made of viruses and bacteria, but also of narrative, the roots of which run through our metaphorical and literal ground,

through our literary landscape and through our DNA. The question that we must ask ourselves is, do we want to *see* the richness of this interconnectivity, to marvel as we “look into the seeds of time,” and witness the stories as they unfold? The challenge will be to create narratives that can house—even encourage—emergent narratives that help us to *see* who and what we are as humans in relation to the natural world. Powers’ novel, and its invocation of Shakespeare’s play, are steps in that direction.

Macbeth reappears at the scene of Hui’s suicide. He is listening to Verdi’s *Macbeth* as he shoots himself, sitting beneath the mulberry tree that he had planted with his wife years before. There is an ancient poem by Wang Wei unscrolled before him which reads in part:

An old man, I want
only peace.
The things of this world
mean nothing.
I know no good way
to live and I can’t
stop getting lost in my
thoughts, my ancient forests. (41)

The poem again calls to mind Macbeth’s “sound and fury, signifying nothing.” The old man’s mind is full, but the signals are meaningless, or at least beyond his ability to organize into meaningful patterns. He was unable to hear the voices of the Arhats and instead was led down the path of the witches. In the chapter “Seeking a Discourse of Scientific Sensitivity” in his book *Going Away to Think*, Scott Slovic poses the question, “... what is the relationship between information and meaning? To phrase another way, what is the relationship between the meaning or import of scattered pieces of information and what we might call ‘an integrated worldview? To push this a little bit further, it seems significant to ponder the relationship between such a worldview and daily behavior” (144). Slovic’s questions seem to get at issues that are at the heart of both *Macbeth* and *the Overstory*: How do minds take fragmented information and turn it into a narrative that creates meaning and then action? How does a rational, even disembodied, approach to data open into and communicate with Wheeler’s affective, intuitive “night science”, and offer up a vision of life that connects the human, the animal, the botanical, and even the inanimate into a continuum of meaningful experience? Can the post-enlightenment scientific approaches that have defined the era between Shakespeare’s and our own lead us to meaning? Or do we need to learn new modes of perception?

Mimi Ma’s path through the novel might provide an answer to Slovic’s questions. Mimi flirts with the same destructive nature that consumed her father and ultimately led him to suicide. She follows the voice that calls to her from nature through trials, anxieties, rages, and even ambition that ultimately proves deadly to someone close to her. Her activism is first spurred by the clear-cutting of a forest behind her office. Without realizing it, she associates the forest with the rings, the Arhats, and ultimately, her father. Her reaction is emotional and unconscious, and despite her aversion to people with conviction, she finds herself leaping into a movement to protect trees in an old-growth forest. Her increasing dedication to the cause flies in the face of the career-driven

materialist she knew herself to be, and pushes her, despite herself, into a close relationship with the novel's other protagonists, each of whom have been led by some interaction with a tree—either mystical or mundane—to the same project. Importantly, none of them arrive to this fate through the result of conscious intention. Their collective zealotry ultimately leads to an act of terrorism in which Olivia Vandergriff—a young woman who believes she can communicate with trees after a near death experience on her college campus and claims to have foreseen the successful conclusion of their efforts to save the forest—dies. Powers writes of Mimi, looking into Olivia's eyes as her life fades: "As clearly as if she speaks the words out loud, she puts the idea into Mimi's skull: *Something's wrong. I've been shown what happens, and this isn't it*" (351, cursive in original). Olivia transmits to Mimi the frustration and failure that consumes Macbeth when he concludes that the signals of nature have all been meaningless. The tragedy forces the characters to scatter around the country and to start new lives, each of their idealisms shattered by the violence that marked their failure. Mimi could have taken the lesson that her father did, the lesson that Macbeth did, the lesson that she detected in the eyes of Olivia as she watched her die, but she chooses another path. Instead of hiding from the signals of nature, the mysterious communicativeness of consciousness, she dives into it as we see in the scenes of the career she builds after the traumatic events lead her to sell the scroll of the Arhats and start a new career:

Stephanie bows her head. She sits up, and they try again. It happens often, this false start. No one suspects how hard it is to hold another's gaze for more than three seconds. A quarter minute and they're in agony—introverts and extroverts, dominants and submissive alike. Scopophobia hits them all—fear of seeing and being seen. A dog will bite if you stare at it too hard. People will shoot you. And though she has looked for hours into the eyes of hundreds of people, though she has perfected the art of endurance staring, Mimi feels a tinge of fear herself, even now, gazing into the skittering eyes of Stephanie, who, blushing a little, powers through the shame and settles down. (400)

Mimi has become a therapist working in a type of tantra based on maintaining eye contact. She is dismissing the human narratives, eschewing the anxieties of our need to know, to arrange the world into consumable stories, and looking right into the eyes of another being without preconditions. She is basking in the sublimity of another being, allowing the signals of nature to pour over her without making demands. It is not that life, that nature, is full of meaningless signals, it is that the complexity of those signals is great, and we are small. The realization embedded in staring is that we are already completely interpenetrated by the world around us. The lesson is that we—humans—must learn to look that complexity straight in the eyes without demanding anything of it, without demanding anything of ourselves.

Moira Marquis' recent article in *Green Letters*, "Listening to the Trees: *The Overstory's* Dendrography and Sugar Maple Speaks" contends that despite Powers' work having been showered with praise, and the Pulitzer Prize, it was ultimately a failure in its effort to give voice to trees. This is not an observation that is lost on Powers himself. In an interview with Emmanuel Vaughan-Lee for *Emergence Magazine*, Powers is confronted with a comment from Barbara Kingsolver's New York Times review: "People will only read stories about people, as this author knows perfectly well. *The Overstory* is a

delightfully choreographed, ultimately breathtaking hoodwink" (qtd. in Vaughan-Lee). Powers responds that

There is a bit of a hoodwink involved, or let's call it a bait and switch, in the book, in which there is an invitation initially to read the book as a classic work of literary fiction that is immersed deeply in the lives of individuals who seem to be making meaning in and for themselves. Gradually, using this seduction shifts the readers' focus to this broader question of who we are inside the larger community of life. (Vaughan-Lee)

He goes on to comment: "You could also say that there is a kind of hoodwinking in status quo literary fiction that does not attempt to situate us in that larger context. The hoodwink would be the invitation to the reader to believe that there is a separate story called nature" (Vaughan-Lee). Marquis' critique is compelling, especially in its appraisal of realism as a style that too often perpetuates a corroded status quo steeped in the hierarchical logics of misogyny and colonialism. However, Powers' project clearly struggles with the question of how to portray nonhuman consciousness through a narrative form that appeals to humans and succeeds at bringing a crucial narrative to a very broad public. His reliance on the genre of realism is at a minimum complicated by forays into fantasy, spirituality, and virtual reality. Powers' aversion to anthropomorphizing the trees in his text does not need to be read as genuflecting to the superiority of human consciousness; rather, it reflects on how the narrative flow which marks human consciousness becomes a point of division between humans and their environments, offering both the powers and the limitations that self-consciousness carry. In the character of Mimi Ma, there is an almost Platonic recognition that it is the narrative distraction that degrades human consciousness from anything like a seamless integration into its habitat. Mimi's tantric practice is—ironically given she is a character in a novel—an effort to banish the poets from the Republic of her mind, to silence the many narratives that seek to give finite form to an expansive reality in favor of an acceptance of the infinite narratives that are always streaming down around us, and which will always remain plentiful to be assimilated into anything approximating a complete knowledge. The stories we should tell are those that open out into evolution, connection, emergence. It is difficult for me to read this novel as one that bows to the post-enlightenment traditions it is so clearly engaged with dismantling.

The Solitary Pine wasn't alone on the hillside. The Macbeth's weren't either. They felt alone, perhaps because of the ambition that drove them further into isolation. The consolidation of power is an inherently alienating act, after all. "Uneasy lies the head that wears a crown," as Henry IV reminds us (3.1.15-16). Or, perhaps, it was Lady Macbeth's barrenness that led them to feel cut off from the genetic lineage that felt personal and discrete from within a hierarchical system. Shakespeare often invoked the metaphor of bastards (*King John*) and even grafting (*All's Well that Ends Well* and *The Winter's Tale*) to discuss the connection of one generation to the next, which can at times seem arbitrary. What the Macbeths failed to see was how connected they were, and that no amount of steeling themselves against their own conscience could cut the invisible Mycorrhizal connections that tied them to all the other trees in the forest: to Banquo, to Duncan, to each other. As Freud understood, the conscience is built on deep rooted

narrative ties. Ties that intermingle like roots in the underworld. In an effort to bypass the inherent interconnectivity of the human, Lady Macbeth infamously pleads:

...Come you spirits
That tend on mortal thoughts, unsex me here,
And fill me from the crown to the toe top-full
Of direst cruelty. Make thick my blood,
Stop up th'access and passage to remotes,
That no compunctious listings of nature
Shake my fell purpose, nor keep peace between
Th'effect and it. (1.5.38-45)

Her commentary is often read as one that rebukes the frailty of her sex, but it could just as easily be read as an incantation against all sex, all gender, all the debility implied by the symbiosis inherent in a living biological system. She asks, after all, for her blood to be made thick, for the passages to be stopped up, and that nature itself not be allowed to stop her from attaining her goal. This is a prayer for some power to intercede in the face of time and life as much as gender. She wants to be freed of all the interconnectivity that conscience implies. Shakespeare, in almost every one of his works, sets individual intent, individual desire, against the complex unfolding of social hierarchies. Our pursuit of stasis, unity, is simply at odds with the unfolding of time. We are, all of us, dependents.

In looking at the Arhats beside the witches, and at the parallel paths of Macbeth and Hui, or perhaps even more to the point at the generations that exceed them in the forms of Banquo's offspring who finally constitute the royal lineage that evades Macbeth, or Mimi Ma who attains something akin to the peace that eluded her father, we can begin to see how the breadth of nature's timescale diminishes the temporal ambitions of any one life, and perhaps makes the very notion of individuality a foolish pursuit of stagnation amidst a dynamically unfolding material world that is dependent at every step. Our world is one of movement across space and through deep time. Continents and borders emerge and disintegrate even as states of material being metamorphose from inanimate substance to living bodies and back again. We will come and go. So will the tree. So will the mountain.

I wanted to see the tree up close. I set off from the base of la Peñota where we live and headed up a winding path that passes a field marked with a sign that reads "*PELIGRO. GANADO BRAVO*" which translates to "DANGER. BULLS." There is a small practice ring at the far end of the field indicating that these bulls are indeed intended for the bullring, and not just here to sire the cows that roam the open mountainside pasture. I watch the bulls as they graze, seemingly as tranquil as any of the other cows I have come across on walks through these woods. I disturb a murder of crows which surprise me as they take off in unison, squawking their annoyance from above. Stone fences traverse the landscape and I think for a moment of the tremendous amount of work that must go into their maintenance on these steep inclines. Having recently read James Rebanks' *The Shepherd's Life: A Tale of the Lake District*, I imagine the generations and generations of shepherds that have kept those stone walls standing on the impossible grades. I think of the frustration he expresses at the likes of me, urban interlopers who come to understand this

landscape as a place of escape. "It is curious thing," he writes "to slowly discover that your landscape is loved by other people. It is even more curious, and a little unsettling, when you discover by stages that you as a native are not really part of the story and meaning they attach to the place" (88). I breathe in the fresh mountain air, meditate on the pine covered horizon and feel unapologetic about my need for this space. The tree is visible as I walk, but I know the path well enough to know that it doesn't go anywhere near el Pino Solitario's perch. At some point, I will have to ditch the path and rustle up the hillside through the brush.

As I climb, I consider the gap of time between Shakespeare's era and our own, and that span's implications on Powers' decision to rely so heavily on *Macbeth* in the creation of his own meaning. In *Shakespeare and Ecocritical Theory*, Gabriel Egan writes about James Lovelock's Gaia hypothesis, which he explored in detail in his earlier work *Green Shakespeare*. The Gaia hypothesis, writes Egan, proposes that "the entire Earth is considered as essentially a single organism comprising all the component organisms that we generally treat as alive" (38). In other words, the systems of Earth are an ever-expanding system of interlaced, or porous, holobionts, contributing to the macro-organism of Earth. The umwelt might be something similar, parallel, inextricable: an expansive system of interlaced meaning, weaving in and out of its material habitat. Egan points out that early moderns already harbored vitalist notions about the agency of nature and its role in human life, but there's something new in Lovelock:

But Lovelock's Gaia hypothesis takes us even further than this, since it requires us to accept the term 'environment'—meaning that which surrounds life—is itself misleading, since the Earth's crust, the oceans and the atmosphere are just as much part of the singular life-form of Earth as are the micro-organisms, the plants and the animals that we are accustomed to call life. (38)

What is so refreshing about this take, is that it glances backward without becoming nostalgic. We look to Shakespeare's moment on the other side of the Enlightenment for what wisdom it contained, but do not fall into a bleary universal criticism of the science of the past four centuries. We can look back, regain Wheeler's "night science," reclaim the best bits of the vitalist tendencies, and yet maintain an adherence to rational enquiry. Margulis, Sheldrake, and Simard give us the scientific license to ask the humanistic questions posed by Iovino, Alaimo, Bennet, Wheeler, and Latour.

I realize quickly that the approach from this side of the mountain is going to be difficult and I will have to start back down the hill so that I am not late to pick up my son from school. The next day after I drop him off, I get a flat tire which compels me to leave the car at the shop. Luck would have it, there is a path that leads up the other side of la Peñota beginning in the parking lot of the auto shop. In theory, I should be able to hike up the mountain, see the tree, which has become a bit of an obsession, and make my way back down to our house on the other side in a couple of hours. There's a light drizzle, but I am wearing a raincoat, so I start the path.

I veer off the path and hike countercurrent of a stream that flows down the mountainside. I think I have seen this stream from above on another hike, so I am fairly confident that if I walk along it, I will emerge into a flat open space called los

Campamentos because of their historic use as a base for Franco's equivalent of the Hitler Youth. It is hard to imagine *that* Spain from the perspective of the one I have come to know, harder still to imagine this landscape as the site of so much indoctrination. Though, it's easy to see how this majesty, these views, were somehow braided into a sense of national supremacy. I think, for a moment, how integral mountains and forests were in forging the ideologies of fascism. It's a loose and fleeting thought, but I am sure there is something to it. Some misidentification. Some anthropomorphizing of the landscape that is reintegrated into a sense of self as resilient and atemporal as a geological formation. I head up from los Campamentos into the pines.

The incline is steep, and the fog grows thicker with each meter. I remember that this is where Blanca Nieves Fernández Ochoa was found dead in 2019 from an apparent suicide. Blanca Nieves. Snow White. She was the first woman to win a medal for Spain in the Winter Olympics when she took home the bronze for slalom in 1992. Her brother Francisco Fernández Ochoa remains the only Spaniard to have brought home a gold medal in the Winter Olympics which he won in 1972. His statue is the centerpiece of Cercedilla. My path to the tree will pass by el Collado del Rey, a rock formation that serves as a sort of natural lookout over the valley beneath la Peñota. The fog takes on a heavier metaphorical weight an hour into my hike as I imagine her body lying alone on the mountainside for days before being discovered by an officer and his German Shepherd. I think of the Scottish Highlands and of Lady Macbeth coming to the recognition that she cannot live with the sum of her choices.

Then there is the metaphor of the viral, pumping through our veins and across our screens, emerging in the words we choose, and the politics we express, through the literature we read. Following Wheeler's lead, it's time to recognize that the abstraction of mind is never about disconnection, but always about *seeing* more clearly. Seeing that the metaphor, under the scrutiny of the critical gaze, is always covering up a more affective connection rooted in an evolutionary and material bridge from mind to body, from plant to animal, from literature to experience. When I get to the top, the fog is so thick I can barely see a few feet ahead of me, I wander down towards where the tree should be, but come across a barbed wire fence. I can see the Lonely Pine's silhouette, the strong outline of its massive trunk and the cotton-ball bulb of its needles, but I won't be able to get any closer. Not today.

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