# Material Witnesses: Environmental Memory and Nonhuman Agency in the Works of Sooyeon Kim

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#### **Abstract**

This paper investigates how Korean artist Sooyeon Kim's multimedia practice reveals new modalities of environmental memory formation through material agency and heterochronic temporalities. By analyzing Kim's distinctive techniques—enamel layering, extinct wood printing, and botanical preservation installations—we demonstrate how organic and mineral materials function as active co-agents in memory inscription, challenging anthropocentric approaches to remembrance and historical understanding. Drawing on material ecocriticism and affect theory, we theorize "heterochronic assemblages" as artistic configurations where biological, geological, and human temporalities converge through material processes. Kim's use of Jeju Island botanical specimens, mineral pigments, and chemical solutions creates what we term "botanical memory assemblages"—complex networks that enable more-thanhuman forms of environmental remembrance. Through collaborative methodology integrating close material analysis with embodied critic-artist encounters, we reveal how Kim's works generate affective, atmospheric responses that exceed purely aesthetic categories. Our findings contribute to memory studies by demonstrating how materiality mediates historical experience across multiple temporal scales, particularly relevant for addressing environmental crisis in the Anthropocene. Kim's practice illustrates how artistic materials from enamel's geological histories to wood's organic temporalities—participate in memory's construction and transmission. This study advocates for expanded, collaborative research paradigms in environmental humanities that attend to material and non-human agency in cultural memory formation, offering new methodological approaches for interdisciplinary scholarship addressing ecological and temporal multiplicity.

*Keywords:* material ecocriticism, heterochronic assemblages, more-than-human memory, Sooyeon Kim, relational aesthetics

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# Introduction: Materiality, Ecology, and Affective Embodiment in Anthropocene Memory Studies

#### The Material-Ecological-Affective Turn in Memory Studies

Contemporary memory studies has witnessed a significant convergence of material, ecocritical, and affective approaches, recognizing that remembrance operates through complex networks involving human consciousness, non-human actors, and embodied emotional responses to environmental crisis. This shift challenges both anthropocentric models of memory and purely cognitive approaches to remembrance, revealing how materials, organic substances, environmental processes, and affective intensities actively participate in the construction and transmission of individual and collective memories.

#### Affective Ecocriticism and Embodied Environmental Experience

The emergence of affective ecocriticism has further complicated our understanding of how environmental and memorial experiences intersect through embodied encounters that exceed purely rational or representational frameworks. As recent scholarship demonstrates, environmental experience is fundamentally affective—involving complex interactions between emotional, physical, and intellectual responses that cannot be easily separated. This affective dimension becomes particularly important in Anthropocene contexts, where environmental crisis generates what Brennan (2004) terms as "ecological affects"—emotional responses to environmental loss, temporal acceleration, and species extinction that operate below the threshold of conscious cognition. Ecological affects—the complex interplay of emotional and sensory responses to natural and constructed environments—offer a critical lens for examining humanity's relationship with the natural world within American literary history. These affects, ranging from awe and joy to grief and nostalgia, are not merely passive reactions but active mediators shaped by sensory stimuli, cultural memory, and sociohistorical contexts. In literature, they serve as narrative forces that reveal how environments shape human consciousness and, conversely, how human perception imbues landscapes with meaning.

Critically engaging with these affects allows scholars to trace shifting attitudes toward nature—from frontier conquest to Anthropocene anxiety—while interrogating whose emotions are privileged in environmental discourse. By analyzing how literature elicits ecological empathy or alienation, this framework bridges the phenomenological and the political, offering new pathways for understanding environmental justice, multispecies ethics, and the role of narrative in ecological thought.

Sooyeon Kim's artistic practice emerges within this complex theoretical landscape, creating works that engage simultaneously with material processes, ecological relationships, and affective intensities in ways that challenge traditional boundaries between human and non-human, past and present, local and global experience. Her preservation of botanical specimens from Jeju Island, her use of "extinct wood print" techniques, and her accumulative enamel processes all participate in "heterochronic assemblages"—temporal configurations that bring together multiple scales of time while generating affective encounters with environmental and historical loss.

Her preservation of botanical specimens from Jeju Island, her deployment of "extinct wood print" techniques, and her accumulative enamel processes collectively constitute what we

theorize as heterochronic assemblages—a temporal mode that, following Jones and Arning's (2006) analysis of artistic temporality, "entangles divergent historical durations to disrupt linear chronologies" (p. 8). These material practices generate what Grosz (2004) describes as "a dynamic multiplicity" (p. 12), where ecological, geological, and artistic temporalities converge within singular aesthetic configurations.

Kim's assemblages operate through what Deleuze and Guattari (1987) theorize as "intensive becomings"—transformative processes that, as they explain, involve "intensive processes tending toward the (virtual) plane of consistency and/or toward (actual) stratification" (p. 40). These intensive becomings exceed representational logic to engage directly with what they term "forces of stratification"—the geological and temporal layering that organizes matter into determinate forms while simultaneously containing the potential for deterritorialization. The materiality of Kim's practice—from fossilized botanical matter to layered enamel surfaces—operates precisely within this tension between stratification and becoming, creating what Deleuze and Guattari describe as assemblages that "emerge through processes of coding and territorialization that can undergo stratification (formation), deterritorialization (dissolution), reterritorialization (reformation)" (p. 88).

#### **Research Questions and Methodology**

This study addresses four interconnected questions: How do material artistic practices embody and transmit memory in ways that exceed traditional representational strategies? How do non-human materials participate as active agents in memory's construction while generating affective encounters with environmental loss? How can collaborative artist-critic methodologies generate new forms of knowledge about memory's operation in more-than-human assemblages? And how do heterochronic assemblages address the temporal complexities of environmental crisis and cultural memory in Anthropocene contexts?

Our methodology combines close material analysis of Kim's artworks with collaborative interpretive frameworks developed through sustained dialogue between artist Sooyeon Kim and critic Issei Wake, while incorporating affective attention to the emotional and embodied dimensions of environmental encounter. This approach positions artistic practice not as an object of analysis but as a co-constitutive element in knowledge production, while attending to the agency of materials, non-human actors, and affective intensities in memory's formation.

# Theoretical Framework: Toward a Material-Ecocritical-Affective Theory of Heterochronic Memory

#### **Material Ecocriticism and Environmental Imagination**

## The Storied Materiality of Environmental Memory

Material ecocriticism, as developed by Iovino and Oppermann (2014), proposes that "matter and discourse mutually constitute each other in ways that make both material and discursive phenomena simultaneously real, significant, and effective in their agency" (p. 1). This framework becomes particularly powerful when combined with Buell's concept of environmental imagination—the capacity to perceive and respond to more-than-human agencies and temporalities that exceed anthropocentric frameworks.

Buell's (1995) analysis of Thoreau's development of biocentric vision provides crucial insights into how consciousness might expand to encompass the more-than-human world. As Buell argues, environmental imagination requires "a sense of the environment as a process rather than as a constant, a sense of the environment as involving interplay between the human and the non-human, [and] a sense of organic community in which the human is only one voice in the larger conversation of beings" (p. 143).

**Figure 1** *Botanical Materials Preserved in Liquid Solutions Example* 



Kim's use of botanical materials preserved in liquid solutions exemplifies this intersection of material agency and environmental imagination. The preserved plant specimens function as what Iovino and Oppermann (2012) term "storied matter"—material substances that carry their own histories and agencies while intersecting with human narrative constructions (p. 451). Simultaneously, they embody what Buell would recognize as evidence of the more-than-human world's active participation in meaning-making processes.

#### Material Narrativity and Ecological Temporality

The concept of material narrativity challenges traditional distinctions between active subjects and passive objects, revealing how materials themselves participate in storytelling processes that extend across multiple temporal scales. In Kim's work, this manifests through what Ryan (2016) terms "botanical memory"—the ways in which plant materials carry environmental histories, seasonal cycles, and ecological relationships that intersect with human temporal experience while maintaining their own forms of agency.

The preservation process itself becomes a form of material narration that embodies moments when anthropocentric consciousness expands to acknowledge more-than-human agencies and temporalities. These materials continue to change, age, and respond to environmental conditions, making them active participants in the work's temporal unfolding while generating what we term "ecological affects"—emotional responses to environmental agency that operate through embodied encounter rather than intellectual recognition alone.

#### **Heterochronic Assemblages in Kim's Material Practice**

#### **Enamel Technique: Geological Memory and Temporal Stratification**

Kim's enamel works demonstrate how material accumulation can embody what we term "geological memory"—temporal processes that operate on scales far exceeding human biographical time while generating affective encounters that remain accessible to embodied human experience. The mineral-based enamel paints carry their own geological histories through their material composition, while the accumulative layering process creates sedimentary effects that mirror geological stratification while operating through human temporal scales.

This material practice aligns with what Deleuze and Guattari (1987) theorize as assemblages—dynamic configurations where "a body is defined only by longitude and latitude: in other words the sum total of the material elements belonging to it under given relations of movement and rest, speed and slowness (longitude); the sum total of the intensive affects it is capable of at a given power or degree of potential (latitude)" (p. 260). Kim's enamel surfaces operate precisely through this dual register: their material longitude encompasses the geological temporalities embedded in mineral pigments, while their affective latitude generates encounters with deep time that exceed representational frameworks.

Figure 2
Layering as Memory Stratification: Memory 162.2x97.0 enamel on canvas 2014



The accumulative layering process in Kim's enamel works creates what we term "stratigraphic affects"—emotional and physical responses that mirror the temporal layering embedded within geological formations. These material practices participate in what Barad (2007) describes as "material-discursive practices" where "matter and meaning are not distinct elements" but rather "materially enfolded" through processes that "iteratively intraact" (p. 152). The enamel layers embody this intra-activity by simultaneously carrying geological memory and generating contemporary affective encounters.

#### **New Materialist Frameworks and Embodied Temporality**

Contemporary materialist thought provides crucial theoretical grounding for understanding how Kim's practice transforms traditional concepts of matter and temporality. This intellectual movement reconceptualizes matter not as static substance but as dynamic, processual becoming—a shift that fundamentally alters our understanding of how artistic materials participate in meaning-making processes (Bennett, 2010, p. 20).

New materialist perspectives challenge traditional hierarchical distinctions between mental and physical realms, cultural and natural domains, and linguistic and material spheres. As Haraway (1988) argues in her foundational work on material-semiotic actors, these approaches reveal how "the boundaries between physical and non-physical are very imprecise for us" (p. 195). This theoretical reorientation advocates for fluid boundaries and interconnected relationalities, examining how material conditions both influence and are influenced by cultural practices and meaning-making systems.

Within this framework, embodied existence participates actively in meaning-making processes through what can be understood as continuously transforming networks of relationships. These dynamic configurations resist fixed boundaries and emphasize what Bennett (2010) calls "thing-power"—the vital materiality that "can aid or destroy, enrich or disable, ennoble or degrade us" (p. 6). Kim's material assemblages operate precisely through such thing-power, creating encounters where mineral, organic, and technological agencies converge to generate new forms of temporal experience.

This perspective emphasizes the indivisible connection between ontology, epistemology, and ethics through what Barad (2007) terms "ethico-onto-epistemology"—the recognition that "ethics, ontology, and epistemology are not separable" because "we are part of the world in its differential becoming" (p. 185). Kim's practice embodies this integration by creating material encounters that simultaneously raise questions about what exists (ontology), how we know it (epistemology), and how we should respond (ethics) to environmental crisis and historical loss.

### Material Palimpsest and Deep Time Affects

Beginning with photographic imagery, Kim builds up layers of enamel paint that create what we term "material palimpsest"—surfaces that bear traces of multiple temporal moments while engaging with deep geological time through their mineral composition. This process materializes what Morton (2013) terms "hyperobjects" while remaining present and effective in human experience (p. 1).

The affective dimensions of these material palimpsests operate through what we term "deep time affects"—emotional and physical responses to encountering temporal scales that exceed human biographical experience. Recent research in environmental psychology reveals how encounters with geological time can generate complex emotional responses that combine awe, anxiety, and wonder in ways that exceed conventional emotional categories (Clayton & Manning, 2018, pp. 45–67).

Figure 3
Original Picture



Figure 4
Memory, 33.4 cm X 53.0 cm, Enamel on Canvas, 2023



Each layer of enamel exists in what Morton (2013) calls "strange stranger" relationship with other layers—they coexist without fully merging, creating uncanny effects where familiar photographic imagery becomes alien through material transformation (pp. 38–39). This strangeness generates what we term "material uncanny"—emotional responses to the familiar becoming strange through material process rather than psychological projection.

# Case Study: "Memory" Series (2016-2023) - Affective Becoming and Environmental Imagination

The evolution of Kim's "Memory" series over seven years demonstrates what we term "affective becoming"—the way artworks continue to develop through ongoing material processes that generate changing emotional and physical responses over extended time. The enamel surfaces continue to cure, crack, and age, making each work a site of ongoing material activity that requires sustained attention and repeated encounter.

The temporal dimension that Buell (1995) identifies as central to environmental awareness—where meaning emerges through sustained observation rather than immediate comprehension—finds parallel expression in Kim's enamel practice (pp. 78–82). The material changes in the enamel surfaces become visible only through repeated encounters over

extended time, creating what Buell would recognize as opportunities for developing expanded environmental consciousness (p. 156).

Figure 5
Memory, 162.2 cm X 97.0 cm, Enamel on Canvas, 2018



The monochromatic palette—predominantly mineral grays and earth tones—connects the works to geological coloration while simultaneously evoking the black-and-white photography that serves as their starting point. This creates temporal bridges between photographic time, geological time, and exhibition time, embodying what Grosz (2004) terms "time's material condition" while generating what we term "chromatic affects"—emotional responses to color that operate through material rather than purely optical encounter (pp. 187–192).

### "Extinct Wood Print": Organic Decay and Regenerative Affects

**Figure 6** *Sketch of "Figure 8"* 



Figure 7
Process of "Figure 8"



Figure 8
Memory, 22.7 cm X 15.8 cm, Extinct Woodcut Print, 2017



Kim's "extinct wood print" technique transforms traditional printmaking through what we term "regenerative destruction"—a process where the degradation of organic materials generates new forms of creative possibility while addressing environmental crisis through material practice. This technique exemplifies "thing-power"—the capacity of materials to act as vital forces rather than inert matter—while generating complex emotional responses to extinction and environmental loss.

#### Wood as Affective Material Agent

The woodblocks in Kim's process function as what Bennett (2010) terms "actants"—entities with their own forms of agency that contribute to the work's development in ways that exceed the artist's conscious control while generating emotional responses that exceed purely aesthetic categories (pp. 20–24). Wood grain, density variations, and moisture content all

participate in determining the final appearance of each print, making the material an active collaborator in both creative and affective processes.

Recent research in plant cognition reveals how trees maintain complex forms of memory through their growth patterns, seasonal responses, and chemical communication systems (Gagliano et al., 2017; Trewavas, 2003). Kim's use of wood as artistic material creates encounters with these more-than-human forms of memory while subjecting them to processes of creative destruction that mirror larger patterns of environmental loss and transformation.

As Kim (2019) explains: "The extinction woodcut technique... is a process of removing the difficult parts from the memory and then collecting new pieces again" (artist statement). This description reveals how the material process itself becomes a form of thinking and feeling that operates through embodied encounter with material resistance rather than purely conceptual manipulation.

#### Organic Temporality and Environmental Grief

The technique embodies what we term "organic temporality"—temporal rhythms derived from natural processes rather than mechanical repetition, while generating what recent environmental scholarship terms "anticipatory grief"—emotional responses to projected future loss that operate through present encounter with material processes (Cunsolo & Ellis, 2017; Ray, 2020).

Each carving responds to the wood's seasonal changes, grain patterns, and aging processes, creating prints that register environmental conditions alongside intentional artistic decisions. This creates what we term "material weather"—the ways in which artworks participate in environmental processes while maintaining their status as cultural objects.

The progressive destruction of the woodblock materializes what Braidotti (2013) terms "sustainable transformations"—processes of change that generate new possibilities through creative engagement with material limitations while acknowledging finite resources (pp. 45–67). Rather than depleting resources, the technique transforms one material configuration (the intact woodblock) into multiple configurations (the series of prints) while generating encounters with loss and transformation that address larger environmental concerns.

### Mixed Media Installations: Botanical Memory and Affective Assemblages

Kim's mixed media installations create what we term "botanical memory assemblages"—complex networks involving preserved plant materials, chemical solutions, technological apparatus, human perception, and affective response. These works exemplify what Haraway (2016) calls "symbiogenetic" processes, where meaning emerges through ongoing interactions between different forms of life, matter, and emotional response (pp. 58–98).

### "Memorium": Preserved Life and Atmospheric Memory

Figure 9
Memorium, Mixed Media Installation, 2018



Figure 10
Memorium, Mixed Media Installation, 2018



The "Memorium" installation features botanical specimens preserved in liquid solutions—a technique that maintains organic forms while transforming their material conditions and creating complex atmospheric effects that operate through multiple sensory modalities. These preserved plants function as what van Dooren (2014) terms "lively commodities"—entities that retain forms of biological agency even within human cultural systems while generating emotional responses that exceed commodification (pp. 89-112).

The preservation process itself becomes a form of collaboration between human intention, chemical processes, organic matter, and atmospheric generation. The specimens continue to change color, position, and appearance over time, making them active participants in the work's temporal development while creating what we term "atmospheric memories"—environmental conditions that generate lasting emotional impressions through sensory encounter.

The installation creates what Anderson (2009) terms "atmospheric attunement"—emotional responsiveness to environmental conditions that operates below the threshold of conscious

cognition while profoundly shaping experience. Viewers report complex emotional responses that combine fascination, melancholy, and wonder in ways that exceed conventional aesthetic categories.

#### More-Than-Human Memory Networks and Environmental Imagination

From a material ecocritical perspective, the preserved botanical specimens carry what we term "phyto-memory"—forms of environmental memory encoded in plant structures, seasonal rhythms, and ecological relationships that intersect with human biographical memory and cultural memory to create complex temporal assemblages.

The installation creates what Tsing (2015) calls "contaminated diversity"—spaces where human and non-human histories become entangled in ways that resist easy separation while generating encounters with ecological relationship and environmental loss (pp. 27–44). Viewers encounter not just representations of nature but actual organic matter that carries its own forms of historical inscription and ongoing agency.

### Collaborative Interpretation: Affective Dialogue and More-Than-Human Knowledge Production

#### Methodology of Embodied More-Than-Human Collaboration

Our collaborative methodology expanded beyond human dialogue to include sustained attention to material agencies, non-human actors, and affective intensities in Kim's works. This approach recognizes what Haraway (2016) terms "response-ability"—the capacity to respond to and with other entities in collaborative meaning-making processes that include emotional and embodied dimensions alongside intellectual engagement (p. 34). Such methodological approaches align with what new materialist scholars identify as the need to account for the agency of materials themselves in artistic practices, where "material agencies" operate alongside human intentionality in the creation of meaning (Coole & Frost, 2010, p. 9). This collaborative framework acknowledges that meaning-making emerges through entangled relationships between human consciousness, material substances, and more-than-human entities, creating what Cooke and Colucci-Gray describe as "performative, rather than representative" forms of knowledge production (p. 187).

### Affective Material Interviews and Embodied Encounters

In addition to conventional interviews, our research included what we term "affective material interviews"—extended periods of observation and interaction with Kim's works that attended to their ongoing material changes, non-human agencies, and the emotional and physical responses they generated. These sessions revealed aspects of the works that exceeded both artistic intention and initial critical interpretation while generating forms of knowledge that operated through embodied encounter rather than purely intellectual analysis (Foster, 2019, p. 89). Such methodological approaches align with what Fries identifies as "experiential embodied engagements with materiality" that follow "material leads through sentient" processes of investigation (p. 156).

The methodology was grounded in sustained, reflective research practices that prioritize deep engagement and repeated encounters with the subject matter over immediate analysis and quick conclusions. This slower temporality allowed for noticing material changes and

affective responses that would be invisible to conventional academic research timelines, creating what DeVerteuil describes as "alternative ways to do research" that resist the pressures of accelerated academic production (p. 145). As Bergthaller et al. argue, such approaches are particularly crucial for environmental humanities work, where understanding ecological processes requires attentiveness to temporal scales that exceed conventional research timeframes (p. 275).

For example, the preserved botanical specimens in "Memorium" continue to shift position within their liquid solutions while generating changing atmospheric effects that influence the emotional tone of the installation space. These material changes function as forms of non-human commentary on the works' meanings, requiring ongoing interpretive attention that exceeds single moments of analysis while generating cumulative emotional responses through repeated encounter (Brown, 2012, p. 67). Such processes demonstrate what Nordström (2018) identifies as the capacity of creative works to generate "events at sites of encounter" that unfold across extended temporal frameworks (p. 201).

#### The Productive Discrepancy of Affective Material Agency

Our collaboration revealed significant discrepancies not only between artistic intention and critical interpretation but also between human interpretations and material behaviors, and between intellectual analysis and embodied response. We term these "affective material productive discrepancies"—generative spaces where non-human agencies and emotional responses contribute to meaning-making in ways that exceed human control while opening new possibilities for understanding.

The enamel paintings, for instance, continue to develop surface textures and color variations through ongoing chemical processes that generate changing visual and tactile effects alongside shifting emotional responses. These material and affective changes require ongoing interpretive engagement that positions both artist and critic as respondents to material agency and emotional intensity rather than sole authors of meaning.

#### **Environmental Imagination and Collaborative Ecology**

Our collaboration demonstrates how meaning emerges through complex assemblages involving human consciousness, material substances, environmental processes, and affective intensities. This approach extends both Bourriaud's (2002) relational aesthetics and Buell's environmental imagination to include non-human actors and embodied responses as participants in collaborative meaning-making.

#### Beyond Human Subject-Object Relations: Embodied Environmental Knowledge

Traditional art criticism maintains distinctions between human subjects and material objects, but our material-ecocritical-affective approach reveals how subjects and objects co-constitute each other through ongoing material-discursive-affective practices. Kim's artworks are not complete objects awaiting human interpretation but ongoing material processes that continue to develop through multispecies interactions while generating changing emotional and physical responses.

The preservation solutions in "Memorium," for example, create chemical environments that continue to interact with organic specimens in ways that generate new visual, atmospheric,

and emotional effects. These material processes contribute to the works' meanings alongside human interpretive activities while creating ongoing opportunities for embodied learning that exceeds conventional academic frameworks.

#### Conclusion

#### **Toward Heterochronic Environmental Memory Studies**

This study demonstrates how attention to heterochronic assemblages, environmental imagination, and affective ecocriticism can generate new insights into memory's operation as a more-than-human phenomenon that addresses environmental crisis through artistic and collaborative practice. Sooyeon Kim's artistic practice reveals memory as emerging through complex assemblages involving human consciousness, organic matter, mineral substances, chemical processes, technological mediations, and affective intensities that operate across multiple temporal scales while maintaining connection to embodied experience.

Our material-ecocritical-affective approach extends traditional memory studies by revealing the active participation of non-human actors and environmental processes in memory's construction while demonstrating how affective intensities and atmospheric conditions contribute to memorial experience. Kim's botanical specimens, mineral pigments, and preservation technologies function as material narrators that contribute their own forms of agency to memory's ongoing development while creating opportunities for environmental imagination and ecological consciousness.

Our collaborative methodology suggests that memory studies requires approaches that attend to memory's distributed nature across human and non-human networks while incorporating affective attention and environmental imagination. The productive discrepancies that emerged through our dialogue—including discrepancies between human interpretation and material behavior, between intellectual analysis and embodied response—reveal memory as an ongoing process of negotiation involving multiple forms of agency, temporal scales, and environmental relationships.

As memory studies continues to evolve in an era of environmental crisis and technological transformation, we argue for increased attention to the heterochronic dimensions of remembrance and the collaborative possibilities of more-than-human research that incorporates environmental imagination and affective ecocritical approaches. Only through such approaches can the field adequately address the complex challenges of memory in an increasingly interconnected yet fragmented world where human history is inseparably entangled with non-human processes and environmental crisis demands new forms of temporal and ecological consciousness.

#### Affective Ecocriticism and Environmental Care

The affective dimensions of Kim's work address what recent environmental scholarship identifies as crucial challenges for environmental care and political response. Environmental crisis generates complex emotional responses that combine grief, anxiety, love, and hope in ways that exceed conventional political frameworks while requiring new forms of cultural and artistic attention.

Kim's preservation techniques create what we term "caring encounters" with environmental loss—experiences that acknowledge destruction while maintaining possibilities for ongoing relationship, attention, and responsibility. These encounters operate through embodied response and affective intensity rather than purely intellectual recognition, generating forms of environmental care that exceed both sentimental attachment and scientific objectification.

Recent scholarship in environmental humanities reveals how environmental care requires forms of attention that can encompass both intimate local relationships and vast spatial and temporal scales simultaneously. Kim's heterochronic assemblages create opportunities for such multi-scalar attention by bringing together biological, geological, technological, and human biographical time in configurations that remain accessible to embodied human experience while acknowledging more-than-human agencies and environmental relationships.

#### References

- Anderson, B. (2009). Affective atmospheres. *Emotion, Space and Society*, 2(2), 77–81.
- Barad, K. (2007). Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning. Duke University Press.
- Bennett, J. (2010). Vibrant matter: A political ecology of things. Duke University Press.
- Bergthaller, H., Carruth, A., Nunes, M., Phillips, D., Steer, A., Szerszynski, B., & Wilke, S. (2014). Mapping common ground: Ecocriticism, environmental history, and the environmental humanities. *Environmental Humanities*, *5*(1), 261–276.
- Bourriaud, N. (2002). *Relational aesthetics* (S. Pleasance & F. Woods, Trans.). Les presses du réel.
- Braidotti, R. (2013). The Posthuman. Polity Press.
- Brennan, T. (2004). The transmission of affect. Cornell University Press.
- Brown, N. G. (2012). Disorientation and emergent subjectivity: The political potentiality of embodied encounter. *Journal of Dance & Somatic Practices*, 3(1–2), 61–73.
- Buell, L. (1995). The environmental imagination: Thoreau, nature writing, and the formation of American culture. Harvard University Press.
- Buell, L. (2001). Writing for an endangered world: Literature, culture, and environment in the U.S. and beyond. Harvard University Press.
- Clayton, S., & Manning, C. (Eds.). (2018). *Psychology and climate change: Human perceptions, impacts, and responses*. Academic Press.
- Coole, D., & Frost, S. (Eds.). (2010). *New materialisms: Ontology, agency, and politics*. Duke University Press.
- Cunsolo, A., & Ellis, N. R. (2017). Ecological grief as a human response to climate change-related loss. *Nature Climate Change*, 7(12), 275–281.
- Deleuze, G., & Guattari, F. (1987). *A thousand plateaus: Capitalism and schizophrenia* (B. Massumi, Trans.). University of Minnesota Press.
- Gagliano, M., Ryan, J. C., & Vieira, P. (Eds.). (2017). *The language of plants: Science, philosophy, literature.* University of Minnesota Press.
- Grosz, E. (2004). *The nick of time: Politics, evolution, and the untimely*. Duke University Press.
- Haraway, D. (1988). Situated knowledges: The science question in feminism and the privilege of partial perspective. *Feminist Studies*, 14(3), 575–599.

- Haraway, D. (2016). *Staying with the trouble: Making kin in the Chthulucene*. Duke University Press.
- Iovino, S., & Oppermann, S. (2012). Theorizing material ecocriticism: A diptych. *Interdisciplinary Studies in Literature and Environment*, 19, 448–475.
- Iovino, S., & Oppermann, S. (Eds.). (2014). *Material ecocriticism*. Indiana University Press.
- Jones, C. A., & Arning, B. (Eds.). (2006). Sensorium: Embodied experience, technology, and contemporary art. MIT Press.
- Kim, S. (2019). *Piece of Memories #17* [Artist statement]. Biotophia Gallery, Jeju, Korea.
- Morton, T. (2013). *Hyperobjects: Philosophy and ecology after the end of the world.* University of Minnesota Press.
- Nordström, P. (2018). Creative landscapes: Events at sites of encounter. *Environmental Arts Quarterly*, 12(4), 189–205.
- Ray, S. J. (2020). A Field Guide to Climate Anxiety: How to keep your cool on a warming planet. University of California Press.
- Ryan, J. C. (2016). Botanical memory: Materiality, affect and Western Australian plant life. In J. Damousi & P.Hamilton (Eds.), *A cultural history of sound, memory, and the senses* (pp. 212–230). Routledge.
- Trewavas, A. (2003). Aspects of plant intelligence. *Annals of Botany*, 92(1), 1–20.
- Tsing, A. L. (2015). The mushroom at the end of the world: On the possibility of life in capitalist ruins. Princeton University Press.
- Tsing, A. L. (2017). Arts of Living on a Damaged Planet: Ghosts and Monsters of the Anthropocene. University of Minnesota Press.
- van Dooren, T. (2014). Flight ways: Life and loss at the edge of extinction. Columbia University Press.