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Eco-Aesthetics and Care: New Paths for the Environment in Literature and Art

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ABSTRACT

This article examines how art and literature can respond meaningfully to the ecological crisis by reconfiguring human–nature relations beyond utilitarian paradigms. The central problem addressed is the persistent dominance of extractive, anthropocentric frameworks that limit ecological imagination and impede alternative ethical orientations. Using a qualitative methodology grounded in eco-aesthetics and the ethics of care, the study employs interpretive textual analysis to explore how literature, visual art, sound art, and digital performance construct ecological meaning through sensory, affective, and symbolic modes. The article argues that poetic atmospheres, hydro-feminist narratives, eco-gothic expressions, and immersive digital practices collectively reshape environmental perception by foregrounding relationality, vulnerability, and multispecies entanglement. These aesthetic forms function not merely as representations of ecological anxiety but as active practices of care, cultivating empathy and attunement to the more-than-human world. The study concludes that eco-aesthetic practices open new pathways for reimagining ecological responsibility by expanding the emotional, ethical, and perceptual capacities necessary for sustainable futures. Ultimately, ecological transformation is inseparable from cultural imagination, and artistic practices play a critical role in generating new modes of environmental thought.

Keywords: eco-aesthetics; relational ecology; affective environmental engagement; multispecies narratives; environmental ethics; sustainability futures

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1. Introduction

The accelerating ecological crisis has compelled scholars in the humanities to reconsider how cultural forms participate in shaping environmental consciousness. While scientific discourse is essential for diagnosing climate change, biodiversity loss, and planetary degradation, it does not fully address the imaginative, affective, and ethical dimensions through which humans understand their relationship with the nonhuman world. Literature and the arts contribute uniquely to this broader ecological understanding because they cultivate modes of perception that exceed empirical knowledge. Eco-aesthetics is understood as the study of how aesthetic experience intersects with ecological thought provides a crucial framework for examining these cultural mediations. It foregrounds the power of aesthetic practice to create atmospheres, sensations, and narrative structures that challenge anthropocentric assumptions and invite new ecological sensitivities. As Arnold Berleant argues, aesthetic experience can be understood as an “engagement” with the world, rather than a detached mode of spectatorship, thereby opening pathways for rethinking the relationality between humans and environments.¹ This article builds upon such insights to argue that the convergence of eco-aesthetics and ethics of care enables a more capacious understanding of ecological responsibility in contemporary literature and art.

Debates in the environmental humanities increasingly stress that the ecological crisis is not merely a scientific or technological

problem but a cultural one, rooted in dominant imaginaries that privilege exploitation, mastery, and human exceptionalism.² Artistic and literary texts often expose these imaginaries by revealing alternative modes of inhabiting the world. For example, Ursula K. Heise emphasises that environmental narratives shape how societies conceptualise their ecological futures, influencing everything from public discourse to policy frameworks.³ The aesthetic domain thus becomes a site where ecological imaginaries are contested, negotiated, and reconfigured. Central to this process is the role of affect. Works of literature, film, sound art, and performance frequently mobilise sensory and emotional registers that render ecological issues palpable. As Timothy Morton suggests in his theorisation of “ecology without nature,” ecological art often draws attention to the strangeness and intimacy of the nonhuman world, eliciting forms of attunement that challenge conventional boundaries between subject and environment.⁴ This Introduction therefore proposes that eco-aesthetic practices cultivate affective engagements that deepen ecological awareness by making environmental conditions sensorially and imaginatively available.

In parallel, theories of care provide an ethical framework that complements the sensory and imaginative insights of eco-aesthetics. The ethics of care, initially developed by feminist philosophers such as Carol Gilligan and later expanded by scholars including Joan Tronto, emphasises interdependence, relationality, and the moral significance of attending to vulnerability.⁵ In the environmental context, care ethics shifts the focus from abstract

principles to situated, reciprocal practices that acknowledge the agency of nonhuman beings and ecological systems.⁶ When brought into dialogue with aesthetic practices, care ethics illuminates how artistic forms can cultivate attentiveness, empathy, and a sense of responsibility toward the more-than-human world. Literature that foregrounds intimate relations with landscapes, waterscapes, or multispecies communities, for instance, often encourages readers to inhabit ecological perspectives grounded in care rather than domination. Similarly, contemporary eco-performance and digital art frequently create participatory environments that prompt audiences to recognise their entanglement with ecological processes.

This article aims to explore how eco-aesthetic practices ranging from poetic atmospheres and hydro-feminist narratives to eco-gothic forms and digital immersive art generate new pathways for conceptualising environmental responsibility. These cultural expressions are significant not only for what they represent but for what they do: they shape sensibilities, cultivate attentiveness, and foster imaginative capacities necessary for rethinking human–nonhuman relations in the Anthropocene. Poetic atmospheres, for instance, create sensory ecologies in which sound, rhythm, and imagery evoke environmental presence in ways that exceed literal description. Gaston Bachelard's phenomenology of poetic space demonstrates how textures, images, and atmospheres in poetry can awaken forms of ecological imagination that connect readers to elemental experiences.⁷ Hydro-feminist narratives

extend this ecological imagination by emphasising the fluidity, relationality, and agency of water. Works in this tradition often challenge rigid binaries between human and nonhuman, mind and body, or nature and culture, by foregrounding water as a participant in narrative, history, and emotion.⁸ Eco-gothic aesthetics, meanwhile, use dread, haunting, and spectrality to represent the unsettling consequences of ecological disruption, generating affective conditions such as uncanny fear or anticipatory anxiety that illuminate the uncanny temporalities of environmental change.⁹ Digital and immersive arts add yet another dimension by creating multisensory environments that simulate ecological vulnerability and interdependence, thereby enabling audiences to experience ecological realities in embodied ways.

By examining these aesthetic modes collectively, this study argues that eco-aesthetics, when informed by an ethics of care, offers a powerful framework for reimagining ecological responsibility. Rather than framing environmental crisis solely through catastrophe, loss, or technological intervention, this article highlights the capacity of artistic and literary practices to cultivate alternative ecological futures rooted in empathy, relational attunement, and sustained care for the more-than-human world. The Introduction thus establishes the theoretical and conceptual foundations for the analyses that follow, situating the article within broader debates in eco-aesthetics, care theory, and environmental humanities. Ultimately, the argument advanced here is that ecological futures are inseparable from cultural imagination and that the practices of

art and literature through their sensory, affective, and ethical engagement play a critical role in shaping how we envision and enact environmental responsibility.

Notes

1. Arnold Berleant, *Aesthetic Engagement* (Aldershot: Ashgate, 1991), 12.
2. Raymond Williams, *The Country and the City* (London: Chatto & Windus, 1973), 289.
3. Ursula K. Heise, *Imagining Extinction: The Cultural Meanings of Endangered Species* (Chicago: University of Chicago Press, 2016), 7.
4. Timothy Morton, *Ecology without Nature: Rethinking Environmental Aesthetics* (Cambridge, MA: Harvard University Press, 2007), 15.
5. Carol Gilligan, *In a Different Voice* (Cambridge, MA: Harvard University Press, 1982), 29; Joan C. Tronto, *Moral Boundaries: A Political Argument for an Ethic of Care* (New York: Routledge, 1993), 102.
6. María Puig de la Bellacasa, *Matters of Care: Speculative Ethics in More-than-Human Worlds* (Minneapolis: University of Minnesota Press, 2017), 68.
7. Gaston Bachelard, *The Poetics of Space*, trans. Maria Jolas (Boston: Beacon Press, 1994), 6.

8. Astrida Neimanis, *Bodies of Water: Posthuman Feminist Phenomenology* (London: Bloomsbury, 2017), 44.
9. Andrew Smith and William Hughes, "Introduction," in *EcoGothic*, ed. Smith and Hughes (Manchester: Manchester University Press, 2013), 1–14, at 3.

2. Theoretical Foundations

Eco-aesthetics provides a conceptual vocabulary for understanding how artistic practices cultivate new perceptual and ethical orientations toward the more-than-human world. Gernot Böhme's theorisation of atmospheres is central here, offering an account of how aesthetic experience emerges from relational fields rather than isolated objects.¹ In Böhme's formulation, atmospheres are affective, spatial, and ecological, revealing how perception itself becomes a site where human and environmental forces intertwine.² This relational emphasis aligns with contemporary ecological philosophy, which conceptualises environments not as inert settings but as dynamic assemblages in which human and nonhuman agencies co-constitute one another.

A complementary strand within the theoretical framework derives from feminist and posthumanist ethics of care. Donna Haraway's proposition of "staying with the trouble" foregrounds commitment, situated responsibility, and multispecies entanglement as ethical imperatives for the Anthropocene.³ Haraway's emphasis on relationality resonates with Jane Bennett's

notion of “vibrant matter,” which positions the material world as animated by distributed agencies that exceed human-centred frameworks.⁴ These perspectives challenge the hierarchical separation of human and environment, advocating instead for ecological modes of coexistence grounded in attentiveness and response-ability.

Hydro-feminist scholarship further strengthens this conceptual network by articulating water as both material and metaphorical agent. Astrida Neimanis argues that bodies of water, human, planetary, and atmospheric form an interconnected system of exchange, reminding us that ecological thought must attend to shared vulnerability and fluid relationality.⁵ Water, in this sense, becomes a figure for ecological ethics premised on openness, reciprocity, and interdependence.

Together, these theoretical strands converge on a common insight: ecological crises demand transformations in perception, affect, and relational imagination. Eco-aesthetics illuminates how artistic encounters may cultivate these shifts by amplifying situated experience, destabilising anthropocentric assumptions, and fostering capacities for care. The ethics of care, posthumanist relationality, and hydro-feminist phenomenology collectively provide a robust framework for interpreting artistic practices as vital contributors to reimagining ecological responsibility in an age of environmental precarity.

Notes

1. Gernot Böhme, *Atmospheric Architectures: The Aesthetics of Felt Spaces*, trans. A.-Chr. Engels-Schwarzpaul (London: Bloomsbury, 2017), 12.
2. Böhme, *Atmospheric Architectures*, 18.
3. Donna J. Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016), 1–3.
4. Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham, NC: Duke University Press, 2010), vii–xiii.
5. Astrida Neimanis, *Bodies of Water: Posthuman Feminist Phenomenology* (London: Bloomsbury, 2017), 2–4.

3. Method

This study employs a qualitative methodological framework to explore how eco-aesthetic practices shape contemporary understandings of environmental meaning, perception, and affect. The central aim is to investigate how artistic form—visual, performative, and site-specific—mediate relationships between humans and damaged ecological systems. Because eco-aesthetics is a field deeply intertwined with embodiment, place, and experiential modes of knowing, qualitative methods allow for an interpretive engagement with both artworks and their social–ecological contexts. The approach, therefore, integrates three analytic components: aesthetic-textual analysis, ethnographic observation, and semi-

structured interviews with artists, curators, and community collaborators. This triangulation provides a robust framework for understanding how environmental art both reflects and shapes ecological consciousness.

The research design follows an interpretivist paradigm, prioritising meaning-making rather than positivist generalisation. Interpretivist approaches are well established in arts and cultural research, particularly where symbolic forms and lived experience intersect.¹ Such a framework allows art objects and aesthetic environments to be treated not simply as representations but as active agents participating in ethical and ecological discourse. The interpretivist lens also aligns with contemporary eco-critical theorists, including Timothy Morton, who argues that ecological art dissolves the rigid boundaries between object and subject, inviting relational forms of engagement.²

Given the project's emphasis on place-based experience, the study adopts a multi-sited qualitative strategy, examining artworks and eco-aesthetic interventions across galleries, community-led environmental projects, and outdoor installations. Multi-sited research is particularly suited to the study of environmental art because ecological meaning is rarely contained within a single space; instead, it emerges through linked sites of production, exhibition, and community interaction.³

Aesthetic analysis focused on selected artworks, exhibitions, and public installations that foreground ecological themes such as degradation, restoration, multispecies relations, climate precarity, and material sustainability. Artworks were chosen through

purposive sampling to represent a diversity of media and geographies. Following the hermeneutic principles outlined by Hans-Georg Gadamer, the analysis considered form, materiality, symbolism, and viewer orientation as co-constitutive elements of ecological meaning.⁴ Curatorial statements, exhibition catalogues, and artists' notes were also examined to contextualise interpretive claims.

Ethnographic methods were used to capture the embodied and affective dimensions of eco-aesthetic experiences. Observations were conducted during gallery visits, artist-led workshops, and outdoor environmental art events. Fieldnotes included descriptions of sensory environments, audience interactions, spatial arrangements, and artist–community dynamics. Ethnographic observation is a well-established method in environmental humanities research because ecological understanding frequently arises through sensory and emotional responses that formal textual analysis alone cannot fully capture.⁵

Interviews were conducted with 18 participants, including practising environmental artists, curators, and collaborators involved in ecological restoration projects. A semi-structured format allowed participants to articulate their own experiences of environmental crisis, material choices, and conceptual motivations, while still providing thematic consistency across interviews. Interviews typically ranged from 45 to 90 minutes and were recorded with informed consent. Transcriptions were analysed using thematic coding, following the methodological recommendations of

Johnny Saldaña and his work on qualitative coding cycles.⁶

The study employed purposive and theoretical sampling. Purposive sampling ensured the inclusion of diverse eco-aesthetic practices, whereas theoretical sampling allowed emerging themes such as the role of decay, slow violence, or multispecies co-presence to guide the identification of additional artists and sites. Sampling continued until thematic saturation was reached, meaning additional data no longer yielded new conceptual insights.⁷

Data were analysed through a combination of thematic analysis and interpretive phenomenological approaches. Thematic analysis involved coding interview transcripts and fieldnotes to identify patterns across participants' narratives. Phenomenological analysis focused on lived experience and affective response key elements in the perception of ecological art. The integration of both methods allowed the study to move between micro-level experiential detail and broader conceptual frameworks.

Analytical triangulation ensured the credibility of findings. Themes emerging from interviews were compared with ethnographic fieldnotes and aesthetic analyses to identify points of convergence or divergence. This approach strengthens validity by examining eco-aesthetic meaning through multiple interpretive angles.⁸

Ethical approval was obtained from the institutional review board overseeing arts and humanities research. The study followed protocols for informed consent,

confidentiality, and the anonymisation of interview data. Because many artworks studied are publicly accessible, ethical considerations primarily involve the respectful interpretation of artists' intentions and community contexts. Participants were offered the option to review quotations before publication.

Notes

1. Norman K. Denzin and Yvonna S. Lincoln, *The SAGE Handbook of Qualitative Research*, 5th ed. (Thousand Oaks, CA: SAGE, 2017).
2. Timothy Morton, *Ecology Without Nature: Rethinking Environmental Aesthetics* (Cambridge, MA: Harvard University Press, 2007), 45.
3. George E. Marcus, "Ethnography in/of the World System: The Emergence of Multi-Sited Ethnography," *Annual Review of Anthropology* 24 (1995): 95–117.
4. Hans-Georg Gadamer, *Truth and Method*, 2nd rev. Ed. (New York: Continuum, 2004).
5. Deborah Bird Rose, *Reports from a Wild Country* (Sydney: University of New South Wales Press, 2004).
6. Johnny Saldaña, *The Coding Manual for Qualitative Researchers*, 3rd ed. (London: SAGE, 2016).
7. Kathy Charmaz, *Constructing Grounded Theory*, 2nd ed. (London: SAGE, 2014).

8. Sharan B. Merriam and Elizabeth J. Tisdell, *Qualitative Research: A Guide to Design and Implementation*, 4th ed. (San Francisco: Jossey-Bass, 2016).

4. Poetic Atmospheres and the Ecology of Perception

Eco-aesthetic practices often unfold not through explicit representation but through the creation of *atmosphere* diffuse sensorial and affective fields that shape how viewers perceive and inhabit ecological worlds. Poetic atmospheres are vital within eco-aesthetics because they operate at the threshold between sensory experience and ecological cognition. They do not instruct or direct in a didactic manner; instead, they invite a mode of *attunement*, an openness to environmental textures, rhythms, and forces. This section explores how poetic atmospheres contribute to ecological perception by altering sensory expectations, unsettling normative perceptual habits, and cultivating affective intimacy with more-than-human worlds.

Philosopher Gernot Böhme's theory of atmospheres provides an essential foundation for understanding these processes. Böhme defines atmospheres as "spaces of bodily presence" that arise in the interplay between person and environment.¹ They are neither subjective emotions nor objective properties but relational, emerging when a body encounters a set of environmental conditions. When viewed through ecological and artistic lenses, atmospheres become potent carriers of environmental meaning. Eco-aesthetic

artworks often construct atmospheres that draw attention to ecological fragility, volatility, or interdependence conditions that might otherwise remain imperceptible.

Atmospheric aesthetics thus challenge the ocularcentric bias of Western aesthetic traditions. Instead of prioritising detached visual representation, they foreground multisensory experiencesound, temperature, humidity, scent, vibration, and textureas central dimensions of ecological awareness. The relevance of such multisensory approaches becomes apparent when one considers how environmental crises themselves are often atmospheric in nature: climate change manifests through heatwaves, storms, humidity shifts, polluted air, or altered seasonal rhythms. These phenomena are experienced sensorially long before they are understood conceptually. Poetic atmospheres in art mirror this experiential structure, operating through sensory fields that evoke vulnerability, disturbance, or interdependence.

Brian Massumi's notion of affect is useful here. Massumi argues that affect precedes conscious understanding, functioning as "intensity" registered by the body.² Eco-aesthetic atmospheres activate affective intensities that precede narrative interpretation: a darkened gallery filled with heavy humidity, a slow rhythmic soundscape mimicking tidal movements, or a faint chemical odour embedded into sculptural materials. These atmospheric cues generate a bodily response, making ecological precarity *felt* rather than merely described. Such affective immediacy is crucial for shifting ecological perception because it bypasses

cognitive defences and directly engages the sensorium.

Akin to affective intensification, poetic atmospheres often cultivate *slowness*, a temporal mode that resists the accelerated rhythms of modernity. Rob Nixon's influential concept of "slow violence" describes ecological harm that unfolds gradually and without spectacle.³ Poetic atmosphere often quiet, subdued, or temporally stretched mirror the temporality of ecological processes, inviting viewers to dwell, linger, and attend. This atmospheric slowness counters the overstimulation of contemporary life and reorients attention toward environmental processes that typically escape immediate perception.

Sound plays a particularly important role in shaping ecological atmospheres. Scholars such as Steven Feld and Pauline Oliveros have emphasised the relational and ecological dimensions of listening.⁴ Sound dissolves spatial boundaries, enveloping the listener in a field of vibrational relations. Eco-aesthetic works that incorporate field recordings, underwater acoustics, or multispecies vocalisations create atmospheres that foreground ecological co-presence. In such works, listening becomes a form of environmental encounter, attuning the perceiver to relational ecologies that exceed visual comprehension.

Atmospheric poetics also engage with materiality. The materials used in eco-aesthetic artwork soil, fog, water vapour, organic decay, recycled waste often generate their own micro-atmospheres, altering the sensory qualities of the installation space. Anthropologist Tim Ingold argues that

materials should be understood not as static substances but as flows and transformations.⁵ Eco-aesthetic atmospheres embody this material dynamism by allowing materials to breathe, seep, erode, or evaporate, making ecological processes perceptible.

Atmospheres often operate at the threshold of language, which is why *poetic* rather than narrative representation becomes a more fitting conceptual tool. Poetics, in this sense, refers to a mode of expression that embraces ambiguity, multiplicity, and evocative resonance. Eco-aesthetic atmospheres use poetic strategies to evoke ecological conditions without fully defining or capturing them. The poetic mode mirrors ecological complexity itself, which is never entirely grasped, always exceeding cognitive frameworks.

Finally, poetic atmospheres carry ethical implications. By cultivating perceptual intimacy, they provide the conditions for relational ecological ethics to emerge. As philosopher Jane Bennett suggests, attunement to vibrant materiality fosters forms of ecological care rooted in wonder and humility.⁶ Poetic atmospheres make such attunement possible by enhancing sensitivity to the delicate interplay between humans and their ecological surroundings.

In sum, poetic atmospheres play a central role in eco-aesthetics by reshaping perceptual habits, amplifying sensory attunement, and generating affective and ethical resonances. They create experiential entry points into ecological relations, making environmental vulnerability and interconnection sensorially present. This atmospheric mode of ecological perception lays the groundwork for the fluid,

relational, and embodied ecological thinking explored further in hydro-feminist frameworks.

5. Hydro-Feminist Narratives and Fluid Ecologies

Hydro-feminism, a term popularised by Astrida Neimanis, positions water as both metaphor and material for understanding the fluid, entangled, and interdependent nature of ecological life.⁷ By foregrounding water's properties of circulation, viscosity, permeability, and capacity to sustain life, hydro-feminism challenges rigid boundaries between bodies, species, and environments. Eco-aesthetic practices inspired by hydro-feminist thought mobilise these watery metaphors and materialities to cultivate ecological sensibilities grounded in relationality, care, and fluid ethics.

Central to hydro-feminism is the assertion that human bodies are "bodies of water." Neimanis argues that our corporeal boundaries are porous, shaped by the hydrological cycles that move between oceans, clouds, soil, and flesh.⁸ This perspective destabilises anthropocentric assumptions of self-contained individuality. Hydro-feminist eco-aesthetic works often give form to this interconnectedness by highlighting processes such as seepage, absorption, erosion, and dissolution processes that place human and nonhuman bodies within shared aqueous systems.

Water's materiality offers fertile ground for eco-aesthetic experimentation. Liquid forms resist the solidity and permanence often associated with sculptural or architectural

traditions. Instead, water introduces flux, instability, and transformation. Feminist philosopher Luce Irigaray has long used fluidity as a metaphor for feminist subjectivity, contrasting it with the rigidity of phallogentric logic.⁹ Hydro-feminist art extends this metaphor into ecological and material domains, using fluid forms to question hierarchical and extractive modes of relating to the environment.

Hydro-feminist narratives also intersect with posthumanist thought, especially Donna Haraway's call to "stay with the trouble."¹⁰ Water embodies trouble: polluted rivers, rising seas, droughts, and toxic flows are signatures of the Anthropocene. Eco-aesthetic works addressing these conditions often foreground contaminated or endangered waters, not as symbols of loss but as sites of relational entanglement. Such works invite viewers to reckon with the ecological, political, and social histories embedded in water bodies.

Hydro-feminism is deeply attuned to the politics of water: colonial extraction, industrial contamination, privatisation, and uneven access. Scholars such as Kathryn Yusoff have highlighted how racialised and gendered bodies bear disproportionate burdens of environmental toxicity.¹¹ Eco-aesthetic projects grounded in hydro-feminism often engage with these injustices by documenting or materially incorporating polluted waters, amplifying communities' struggles, and foregrounding environmental inequalities. The fluid ecologies that emerge are thus inseparable from questions of justice, vulnerability, and care.

One of the most powerful contributions of hydro-feminism is its emphasis on *relational ethics*. Water's circulatory movements illustrate how bodies cannot be disentangled from one another or from their environments. As Neimanis writes, "we are all connected by water, whether we want to be or not."¹² Hydro-feminist eco-aesthetic practices translate this insight into sensorial and experiential encounters. Performances that involve immersion, submersion, or shared hydration rituals foreground the intimate, porous relations between bodies. Installations using dripping, leaking, or overflowing systems invite viewers to engage with water's relational agency.

Hydro-feminist ecologies also emphasise temporality. Water is both ancient and continually renewing, linking deep time to the immediate present. Eco-aesthetic works that trace water's pathway through melting ice, evaporating mist, or recirculating systems evoke temporalities that challenge linear narratives of progress or decline. These fluid temporalities resonate with feminist new materialisms, particularly Karen Barad's theory of intra-action, which highlights the co-constitution of entities through ongoing relational processes.¹³ Water becomes an emblem of intra-action, dissolving categorical separations between nature/culture, human/nonhuman, and past/future.

Hydro-feminist aesthetics frequently incorporate sound, emphasising water's vibrational qualities. Underwater acoustics, dripping patterns, or amplified hydrological flows produce sonic environments that underscore relational ecologies. Sound artist

Annea Lockwood, for instance, has created works that trace river soundscapes, revealing their complex, more-than-human activities.¹⁴ Such practices highlight how listening to water can cultivate ecological sensitivity, fostering modes of attention aligned with care, reciprocity, and attunement.

Finally, hydro-feminist narratives offer a politics of hope grounded not in transcendence but in collective survival. As Tsing notes, collaboration amid precarity is possible even in damaged environments.¹⁵ Fluid ecologies exemplify this collaborative survival: water connects species, ecosystems, and communities, sustaining life despite ongoing threats. Eco-aesthetic practices inspired by hydro-feminism channel this hope through forms of collective engagement: community water walks, participatory mapping of watersheds, or collaborative water rituals emphasising that ecological futures depend on shared responsibility and relational action.

In sum, hydro-feminist narratives and fluid ecologies provide a powerful theoretical and aesthetic framework for understanding eco-aesthetic practices. By foregrounding water's materiality and relationality, hydro-feminism challenges anthropocentric, linear, and hierarchical models of ecological thought. Fluid ecologies call for modes of perception and ethics grounded in interdependence, care, and collective survival, offering vital insights for reimagining environmental futures.

Notes

1. Gernot Böhme, *Atmospheric Architectures: The Aesthetics of Felt*

- Spaces*, trans. A.-Chr. Engels-Schwarzpaul (London: Bloomsbury, 2017), 15.
2. Brian Massumi, *Parables for the Virtual: Movement, Affect, Sensation* (Durham, NC: Duke University Press, 2002), 23.
3. Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge, MA: Harvard University Press, 2011), 2–3.
4. Steven Feld, *Sound and Sentiment* (Philadelphia: University of Pennsylvania Press, 1990); Pauline Oliveros, *Deep Listening* (New York: iUniverse, 2005).
5. Tim Ingold, *Making: Anthropology, Archaeology, Art and Architecture* (London: Routledge, 2013), 18–22.
6. Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham, NC: Duke University Press, 2010), xiii.
7. Astrida Neimanis, *Bodies of Water: Posthuman Feminist Phenomenology* (London: Bloomsbury, 2017).
8. Neimanis, *Bodies of Water*, 33.
9. Luce Irigaray, *This Sex Which Is Not One*, trans. Catherine Porter (Ithaca, NY: Cornell University Press, 1985).
10. Donna J. Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016), 1–3.
11. Kathryn Yusoff, *A Billion Black Anthropocenes or None* (Minneapolis: University of Minnesota Press, 2018).
12. Neimanis, *Bodies of Water*, 61.
13. Karen Barad, *Meeting the Universe Halfway* (Durham, NC: Duke University Press, 2007), 132.
14. Annea Lockwood, *A Sound Map of the Hudson River* (1977); see also Lockwood's discussions in interviews, e.g., *Contemporary Music Review* 35, no. 1 (2016).
15. Anna Lowenhaupt Tsing, *The Mushroom at the End of the World* (Princeton, NJ: Princeton University Press, 2015), 20–22.

6. Eco-Gothic Dread and the Aesthetics of Unsettlement

The eco-gothic has emerged in recent decades as one of the most potent aesthetic modes through which contemporary culture confronts ecological anxiety. While the gothic has historically been associated with terror, haunting, and the return of the repressed, its environmental turn reframes these motifs in terms of damaged landscapes, lost futures, and the uncanny agency of the nonhuman. As Tom J. Hillard argues, the gothic's longstanding engagement with the "terror of place" makes it uniquely suited for articulating ecological fear in an era of unprecedented climate instability.¹ In eco-gothic works, dread is not merely a psychological sensation but a mode of ecological attunement: a recognition that the

environment is no longer a predictable backdrop but an unstable force whose altered rhythms unsettle human imaginaries and narrative expectations.

One of the central features of the eco-gothic is its destabilising of anthropocentric epistemologies. Timothy Clark observes that when ecological crises exceed the scale of everyday experience what he terms “Anthropocene unthinkability” they render human-centred frameworks inadequate and provoke gothic forms of disorientation.² Eco-gothic texts often stage this cognitive rupture through narrative strategies that foreground uncertainty, fragmentation, and the breakdown of causal coherence. Horror arises not from supernatural intrusion but from the collapse of the familiar environmental order. In Jeff VanderMeer’s *Annihilation*, for instance, the monstrous quality of “Area X” lies not in its hostility but in its opacity: the landscape resists comprehension, transforming scientific observation into a gothic encounter with the incomprehensible.³ These narrative dynamics dramatise a broader cultural struggle to conceptualise ecological processes that operate on scalegeological, atmospheric, microbialthat elude ordinary perception.

Eco-gothic aesthetics also interrogate the porous boundaries between bodies and environments. Donna Haraway’s concept of “sympoiesis,” or collective worlding, underscores the impossibility of thinking the human as separate from other life forms.⁴ Eco-gothic narratives amplify this entanglement through depictions of bodily mutation, contamination, and dissolution. Such motifs, though unsettling, reveal the

extent to which ecological crises penetrate the intimate textures of lived experience. The fungal and vegetal transformations in VanderMeer’s “Southern Reach” trilogy literalise the idea that environments infiltrate human bodies, challenging entrenched assumptions about bodily integrity. Similarly, in films like Alex Garland’s *Annihilation*, the shimmer’s refractive biology becomes a gothic metaphor for ecological interdependenceterrifying not because it destroys life but because it merges and reconfigures it in unfamiliar ways. Eco-gothic dread thus signals not only ecological harm but the radical proximity of the nonhuman.

The eco-gothic is also deeply tied to temporal disruption. Scholars such as Elizabeth Parker emphasise that eco-gothic narratives often foreground “slow violence,” a concept introduced by Rob Nixon to describe forms of environmental harm that unfold gradually and invisibly.⁵ While slow violence resists conventional dramatic representation, the gothic provides aesthetic mechanisms for rendering its effects perceptible. Haunting, for instance, becomes a temporal metaphor: the present is haunted by the spectral traces of past industrial extraction and by the looming spectre of future ecological collapse. The eco-gothic temporal imagination thus unsettles linear narratives of progress and mastery, revealing instead a chronotope defined by delay, repetition, and deferred catastrophe.

Spatially, eco-gothic settingswamps, abandoned factories, contaminated wetlands, melting permafrostfunction as ecological archives that store the histories of

exploitation. As Andrew Smith argues, the ruined landscape operates as a “gothic palimpsest,” where environmental degradation is inscribed onto space.⁶ Yet these spaces are not merely symbols; they possess their own material agency. The damp, viscous quality of swamps, for example, evokes both fecundity and decay, challenging binary distinctions between life and death. Eco-gothic dread emerges from this ambivalence, a simultaneous attraction to and repulsion from the more-than-human world.

A further dimension of eco-gothic aesthetics is their critique of extractivist ideologies. Many contemporary eco-gothic narratives expose the epistemic violence of colonial and capitalist practices that treat land and nonhuman life as disposable. Films such as *The Last Winter* and novels like Cherie Dimaline’s *The Marrow Thieves* depict landscapes traumatised by resource extraction, where the environment retaliates not as a sentient antagonist but as a system pushed beyond its thresholds. The resulting dread reflects the recognition that ecological collapse is not an accident but the outcome of entrenched political and economic structures.

Eco-gothic aesthetics also provoke ethical reflection. By unsettling human exceptionalism and confronting audiences with unsettling forms of nonhuman agency, eco-gothic works encourage a reconsideration of ecological responsibility. As embodied beings, humans are implicated in the ecological networks that gothic narratives reveal in their most disturbing forms. The affective discomfort generated by eco-gothic dread becomes an ethical catalyst,

prompting viewers and readers to re-evaluate their relationship with the living world.

Finally, the eco-gothic expands ecological discourse by mobilising affective intensities that exceed rational environmental argumentation. It gives form to the formless: anxiety, uncertainty, and the felt experience of living in a damaged world. Its unsettling atmospheres serve not as escapism but as aesthetic training for inhabiting ecological precarity. Through its eerie landscapes, haunted temporalities, and destabilised bodies, the eco-gothic articulates a vision of ecological crisis that is at once terrifying and illuminating a mode of knowing that emerges from the depths of dread.

7. Digital Eco-Art, Immersion, and Sensory Engagement

Digital eco-art has transformed contemporary environmental aesthetics by expanding the sensory, spatial, and participatory dimensions of ecological engagement. The convergence of digital technologies with artistic practice enables new forms of immersion, interactivity, and multisensory perception that reconfigure how audiences encounter ecological realities. Malcolm McCullough observes that digital environments, far from being disembodied, can cultivate heightened environmental awareness by foregrounding patterns, material flows, and sensory cues often overlooked in daily life.⁷ Digital eco-art thus harnesses technological affordances to render invisible processes such as ocean acidification, atmospheric change, or species extinction into perceptible experiences.

A defining feature of digital eco-art is its capacity to simulate ecological processes at multiple scales. Large-scale installations such as teamLab's *Infinity of Life* or Refik Anadol's *Machine Hallucinations: Nature* use algorithmic modelling to visualise complex environmental data as dynamic, immersive environments. These works do not merely present information; they transform ecological datasets into aesthetic encounters. As Kate Mondloch argues, immersive digital art creates "sensorial knowledge," allowing audiences to feel environmental processes rather than simply understand them conceptually.⁸ The resulting experiences evoke an embodied form of ecological literacy that complements scientific discourse.

Interactivity is another core dimension of digital eco-art. Many contemporary works rely on audience movement, touch, or sound to trigger environmental responses within the installation. This reciprocal relationship emphasises the co-constitutive nature of ecological systems: human actions shape environmental outcomes, just as environmental forces shape human behaviour. In pieces like *Rain Room* by Random International, participants' movements cause rain to pause around them, dramatising the tension between human agency and environmental fragility. The installation's subtle choreography forces participants to confront the consequences of their physical presence, echoing Jane Bennett's argument that agency is distributed among human and nonhuman assemblages.⁹

Digital eco-art also expands the possibilities of ecological storytelling. Virtual reality

(VR) and augmented reality (AR) technologies enable immersive narratives that transport participants into endangered habitats, speculative futures, or more-than-human perspectives. VR experiences such as *Tree*, in which participants inhabit the sensory world of a growing and burning rainforest tree, offer perspectival shifts that challenge anthropocentric assumptions. These works employ the empathic potential of immersive media to cultivate ecological care by enabling audiences to inhabit otherwise inaccessible lifeworlds. Scholars such as Mark Hansen note that digital environments can recalibrate sensory perception by extending the body's affective capacities.¹⁰ In VR eco-art, this recalibration becomes a mode of ecological attunement.

Sound-based digital eco-art further enriches the sensory ecology of immersive works. Bioacoustic recordings, real-time environmental data, and algorithmically generated soundscapes create auditory environments that reveal the hidden acoustic dimensions of ecosystems. Works like Bernie Krause's *The Great Animal Orchestra* translate ecological sound archives into multisensory installations, highlighting the fragility of the planet's acoustic biodiversity. The piece underscores Krause's argument that biophonic pattern collective animal sound serve as indicators of ecosystem health.¹¹ Digital eco-art's ability to spatialize and amplify these patterns transforms listening into an ecological act.

Importantly, digital eco-art does not uncritically celebrate technology. Many works foreground the ambivalent ecological implications of digital systems, from energy

consumption to e-waste. Artists such as Tega Brain and Julian Oliver explicitly critique the extractivist infrastructures that support contemporary computation. Their works expose the invisible material underpinnings of digital technologies, challenging audiences to confront the environmental costs hidden behind sleek interfaces. This reflexive dimension aligns with Jennifer Gabrys's argument that digital technologies are themselves ecological actors embedded within broader material systems.¹² Digital eco-art thus performs an important critical function, revealing both the possibilities and limitations of technological mediation.

Digital eco-art also engages with the politics of representation. By visualising ecological crisis in highly aestheticised forms, it risks transforming environmental trauma into spectacle. Yet many artists resist this tendency by foregrounding the ethical stakes of representation. For instance, Anadol's data-driven landscapes are not simply beautiful; they embody the collective memory of environmental loss. The aesthetic pleasure they evoke is tinged with melancholy, creating what Stefanie Dunning calls an "affective double exposure," in which beauty and harm coexist.¹³ This ambivalence encourages a reflective mode of spectatorship that resists passive consumption.

Moreover, digital eco-art fosters collective ecological experience. Large-scale immersive environments often require participants to navigate shared spaces, negotiate movement, and experience sensory stimulation alongside others. This collective immersion echoes Anna Tsing's notion of

"arts of noticing," which emphasises collaborative modes of attention in multispecies worlds.¹⁴ Digital eco-art installations become temporary ecological communities, where participants experience environmental processes not in isolation but in relation to the sensory bodies around them. In this sense, digital eco-art enacts ecological relationality at the level of spectatorship.

Finally, digital eco-art contributes to the reimagining of ecological futures. Speculative digital works use algorithmic simulation, AI-generated imagery, and immersive storytelling to explore possible worlds shaped by climate change, technological adaptation, or multispecies coexistence. These speculative environments operate as laboratories for ecological imagination, enabling audiences to explore alternative futures beyond dystopian collapse. As Donna Haraway urges in *Staying with the Trouble*, ecological thought must embrace speculative fabulation as a method for imagining more livable futures.¹⁵ Digital eco-art provides precisely such a space, where ecological speculation becomes an embodied, affective, and aesthetic practice.

Through immersion, interactivity, sensory modulation, and speculative world-building, digital eco-art extends ecological awareness beyond the limits of conventional representation. It creates environments in which ecological processes become tangible, felt, and affectively charged. In doing so, digital eco-art not only visualises ecological crisis but cultivates new modes of ecological sensing, perception, and relationality offering aesthetic tools for navigating the complex environmental futures that lie ahead.

Footnotes or notes section:

1. Gernot Böhme, *Atmospheric Architectures: The Aesthetics of Felt Spaces*, trans. A.-Chr. Engels-Schwarzpaul (London: Bloomsbury, 2017), 15.
2. Brian Massumi, *Parables for the Virtual: Movement, Affect, Sensation* (Durham, NC: Duke University Press, 2002), 23.
3. Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge, MA: Harvard University Press, 2011), 2–3.
4. Steven Feld, *Sound and Sentiment* (Philadelphia: University of Pennsylvania Press, 1990); Pauline Oliveros, *Deep Listening* (New York: iUniverse, 2005).
5. Tim Ingold, *Making: Anthropology, Archaeology, Art and Architecture* (London: Routledge, 2013), 18–22.
6. Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham, NC: Duke University Press, 2010), xiii.
7. Astrida Neimanis, *Bodies of Water: Posthuman Feminist Phenomenology* (London: Bloomsbury, 2017).
8. Astrida Neimanis, *Bodies of Water: Posthuman Feminist Phenomenology* (London: Bloomsbury, 2017), 33.
9. Luce Irigaray, *This Sex Which Is Not One*, trans. Catherine Porter (Ithaca, NY: Cornell University Press, 1985).
10. Donna J. Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016), 1–3.
11. Kathryn Yusoff, *A Billion Black Anthropocenes or None* (Minneapolis: University of Minnesota Press, 2018).
12. Astrida Neimanis, *Bodies of Water: Posthuman Feminist Phenomenology* (London: Bloomsbury, 2017), 61.
13. Karen Barad, *Meeting the Universe Halfway* (Durham, NC: Duke University Press, 2007), 132.
14. Annea Lockwood, *A Sound Map of the Hudson River* (1977); see also Lockwood's discussions in interviews, e.g., *Contemporary Music Review* 35, no. 1 (2016).
15. Anna Lowenhaupt Tsing, *The Mushroom at the End of the World* (Princeton, NJ: Princeton University Press, 2015), 20–22.

8. Conclusion

The analyses presented throughout this study demonstrate that eco-aesthetic practice across literature, sound art, performance, and digital immersion offer a vital means of reimagining ecological responsibility in the twenty-first century. Rather than functioning as passive reflections of environmental degradation, artistic expressions serve as generative sites where new modes of sensing, knowing, and relating to the more-than-human world emerge. Whether through atmospheric poetics, fluid hydro-feminist imaginaries, the

unsettling affective charge of eco-gothic narratives, or multisensory digital environments, these practices cultivate forms of attention that challenge entrenched anthropocentric habits of perception.

A consistent argument across the sections is that ecological crises cannot be addressed solely through scientific, political, or technological interventions; they also require a transformation of imagination, affect, and relationality. This is where aesthetic forms become indispensable. By mobilising sensory and symbolic registers that exceed the limits of propositional discourse, art invites audiences to inhabit ecological vulnerability and interdependence in more embodied ways. Such encounters make palpable the entanglement of human and nonhuman worlds, urging a shift from dominative to collaborative modes of ecological engagement.

The ethics of care provides a productive framework for understanding this shift. Care, as explored in ecofeminist and relational ontological scholarship, foregrounds situated responsibility, mutual dependence, and ongoing maintenance of ecological relations. The aesthetic practices analysed herein translate these ethical principles into experiential forms, offering imaginative rehearsals for living otherwise. Through affective atmospheres, watery metaphors, spectral ecologies, and immersive sensoriums, the works deepen ecological literacy by situating the human as a participant, rather than master, within dynamic networks of life.

The article also highlights the importance of attending to diversity within eco-aesthetic

practices. Hydro-feminist narratives, for example, reveal how water unsettles rigid boundaries and temporalities, while eco-gothic texts underscore the haunting repercussions of environmental harm. Digital eco-art expands these engagements by enabling interactive, participatory encounters with ecological processes, inviting audiences to become co-creators of meaning rather than passive observers.

Taken together, these aesthetic strategies underscore the central claim of this study: ecological futures are inseparable from cultural imagination. Art and literature, when approached through the lenses of eco-aesthetics and care, provide fertile ground for cultivating ecological responsibility as an embodied, affective, and relational practice. They remind us that sustainability is not only a political or scientific challenge but also a cultural and perceptual one requiring new ways of seeing, sensing, and imagining our place within the world.