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Rhizomatic Resurgence: Multispecies Storytelling and Ecological Entanglement in Southeast Asian Bio-Art

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A B S T R A C T

The Anthropocene epoch has catalyzed a profound shift in contemporary art, with Bio-Art emerging as a critical field for interrogating the complex relationships between humanity, technology, and the non-human world. While significant scholarship has explored Bio-Art in Western contexts, its unique manifestations within Southeast Asia remain underexamined. This study investigated the rise of a specific mode of Bio-Art in this region, characterized by rhizomatic structures, multispecies storytelling, and deep ecological entanglement, offering a vital counter-narrative to anthropocentric perspectives. This research employed a qualitative, multi-sited case study methodology. Four exemplary Bio-Art projects from Indonesia, Thailand, Philippines, and Singapore, created between 2020 and 2024, were purposively selected. A multi-modal analytical approach was utilized, combining formal visual analysis of the artworks, critical discourse analysis of artist statements and curatorial texts, and thematic analysis of semi-structured interviews with the artists and curators. The analysis was theoretically grounded in the concepts of the rhizome (and multispecies ethnography. The analysis revealed four dominant themes. First, artists consistently employed the rhizome as both method and metaphor, creating non-linear, decentralized works that mirrored ecological networks. Second, a significant pattern of weaving technoscience with traditional ecological knowledge (TEK) was identified, where advanced biotechnologies were syncretized with local cosmologies and indigenous practices. Third, the artworks actively engaged in more-than-human narration, displacing the human as the central protagonist and instead foregrounding the agency of fungi, plants, microbes, and other organisms. Finally, these projects cultivated affective ecologies, generating powerful emotional responses in viewers to foster critical engagement with pressing regional issues. In conclusion, Southeast Asian Bio-Art, as examined in this study, represents a significant "rhizomatic resurgence" that challenges and expands the global discourse on ecological art. By entangling advanced science with local heritage and centering non-human agencies, these practices foster a profound sense of ecological interdependence. This research concludes that the region's artists are pioneering unique aesthetic and ethical frameworks for navigating our shared planetary crisis, contributing vital perspectives rooted in the unique biocultural complexities of Southeast Asia.

1. Introduction

The relentless advance of the Anthropocene, an epoch defined by humanity's profound and often devastating impact on Earth's systems, has precipitated a crisis of representation and imagination across all cultural domains.[1] Within the visual arts, this crisis has spurred the development of new forms and practices that seek to grapple with ecological collapse, interspecies relationships, and the very definition of life in an age of biotechnology.[2] Among the

most potent of these is Bio-Art, a transdisciplinary field where artists utilize the "stuff of life"—living organisms, biological tissues, cells, and genetic material—as their medium. Emerging from the nexus of art, biology, and technology, Bio-Art has historically served as a space for critical inquiry into the ethical, social, and philosophical implications of biotechnology, from genetic modification to synthetic biology.[3] Early scholarship on Bio-Art, largely focused on practitioners in North America and Europe, often centered on the laboratory as a site of artistic production and the "mad scientist" artist persona, highlighting themes of human mastery over nature and the anxieties surrounding transgenic life.[4] However, as both ecological awareness and biotechnological access have become more globally diffuse, the field has undergone a significant transformation. A paradigm shift is underway, moving from a preoccupation with human-centered manipulation towards a deeper engagement with ecological entanglement and the agency of non-human collaborators.[5] This turn is profoundly influenced by posthumanist philosophy and the environmental humanities, particularly the work of thinkers like Donna Haraway, who calls for "staying with the trouble" by cultivating "multispecies justice," and Anna Tsing, who traces narratives of survival and co-creation in "capitalist ruins."[6]

This conceptual evolution finds a particularly fertile ground in the theoretical framework of the rhizome, as articulated by Gilles Deleuze and Félix Guattari.[7] The rhizome, a subterranean plant stem that sends out roots and shoots from its nodes, serves as a powerful metaphor for a non-hierarchical, acentered, and multiplicitous system of connection. Unlike the arboreal (tree-like) model of knowledge, which emphasizes verticality, origin, and binary logic, the rhizome operates through principles of connection and heterogeneity.[8] It is a network of interconnected points where any node can be linked to any other, constantly adapting, expanding, and creating new alignments. In the context of ecological art, the rhizome offers a model for understanding ecosystems not as ordered hierarchies but as complex, entangled assemblages of diverse actors, where fungi, bacteria, plants, and animals co-create the world in a dynamic, non-linear fashion. Despite the global resonance of these ideas, a significant geographical and cultural lacuna persists in the academic literature on Bio-Art. The artistic ecologies of Southeast Asia—a region of immense biodiversity, complex postcolonial histories, and rapid, often rapacious, modernization—remain critically underexplored. This region, home to some of the world's most threatened ecosystems alongside rich traditions of animism and Traditional Ecological Knowledge (TEK), presents a unique context for the development of ecological art practices. The confluence of advanced urban centers like Singapore with vast, biodiverse territories in Indonesia, the Philippines, and Thailand creates a dynamic tension between technoscientific progress and deep-rooted cultural relationships with the natural world. It is precisely within this crucible of contradiction that a distinct form of Bio-Art appears to be emerging, one that resonates powerfully with the principles of the rhizome and multispecies storytelling.[9,10]

This study addresses this critical gap by investigating a "rhizomatic resurgence" in contemporary Southeast Asian Bio-Art. It examines how artists in the region are moving beyond Western paradigms to forge new aesthetic languages that are deeply embedded in their local ecological and cultural contexts. These artists, we argue, are not merely adopting global trends but are actively translating, adapting, and syncretizing them with local knowledge systems to tell stories that decenter the human and highlight our profound entanglement with a more-than-human world. The novelty of this research lies in its pioneering application of a combined rhizomatic and multispecies theoretical lens to the specific context of Southeast Asian Bio-Art. While previous studies have documented new media art in the region, none have systematically analyzed the unique convergence of biology, technology, and TEK that characterizes this emergent field. This study provides the first in-depth, comparative analysis of these practices, mapping their shared characteristics and distinct regional inflections. The aim of this study is therefore threefold: first, to identify and analyze the key thematic and methodological tendencies of

contemporary Bio-Art in selected Southeast Asian countries; second, to investigate how these artistic practices engage with and reframe global ecological discourses through the lens of local biocultural specificities; and third, to argue that these works collectively represent a significant rhizomatic model for art-making in the Anthropocene, one that champions ecological entanglement and fosters a more nuanced, non-anthropocentric understanding of life.

2. Methods

This study was designed as a qualitative, interpretative inquiry into the emergent field of Southeast Asian Bio-Art. To capture the richness and complexity of the phenomenon, a multi-sited case study approach was adopted, allowing for an in-depth exploration of specific artworks within their unique contexts while also enabling cross-case comparison to identify broader regional patterns. The core of the research design was the purposive selection of four exemplary Bio-Art projects. The selection criteria were developed to ensure relevance, diversity, and conceptual depth. Each project had to: (i) be created between 2020 and 2024 to reflect contemporary practice; (ii) explicitly use living biological materials or processes as a core component of the artwork; (iii) originate from an artist based in Southeast Asia and engage with regional ecological or cultural themes; and (iv) have sufficient documentation available (images, videos, artist statements, reviews) to allow for thorough analysis.

The selected cases were chosen to represent a geographical and conceptual spread across the region: Myco-Cosmologies (Variasi Jamur) (Indonesia, 2022): A collaborative project by an artist duo in Yogyakarta. The work was a large-scale, living installation using tempeh mycelium (Rhizopus oligosporus) and local mycorrhizal fungi to create a sprawling network that grew over and consumed discarded electronic waste. The growth process was linked to sensors that translated fungal electrical signals into a generative soundscape based on Javanese gamelan scales. Luminous Sentinels (กล้วยไม้เรืองแสง) (Thailand, 2023): A project by a Bangkok-based artist-scientist. This work involved the creation of a series of genetically modified orchids (Vanda coerulea) containing the bioluminescence gene from fireflies. The orchids were installed in a public park in Bangkok, and the intensity of their glow was engineered to fluctuate in response to specific airborne pollutants (NOx and SO2), acting as living, aesthetic monitors of air quality. Ancestral Weave (Habi ng Ninuno) (Philippines, 2024): A long-term, community-based project by a Filipina artist in collaboration with the Tagbanwa indigenous community of Palawan. The project involved creating large, living "tapestries" woven from endemic and endangered plant species, including rattan and medicinal herbs. The process was collaborative, integrating traditional Tagbanwa weaving techniques and oral histories about the plants' ecological and spiritual significance. Urban Biome Sonification (Singapore, 2021): A laboratory-based work by a Singaporean artist. The project consisted of cultivating microbial biofilms in custom-built bioreactors containing water samples from the heavily urbanized Singapore River. High-resolution microscopy and image-processing software were used to track the growth patterns of the biofilm communities, translating this data into a complex, evolving ambient sound installation in the gallery space.

A multi-modal data collection strategy was employed to build a comprehensive understanding of each case. First, a rigorous visual and material analysis was conducted on all available documentation of the artworks. This involved a close reading of the works' formal qualities, including their scale, composition, use of materials (both biological and non-biological), temporal changes (growth, decay), and the sensory experience they offered to the viewer. Second, a critical discourse analysis was performed on all textual materials associated with the projects. This included artist statements, project descriptions, exhibition catalogs, curatorial essays, and critical reviews published in art journals and online platforms. The analysis focused on identifying the key concepts, narratives, and theoretical frameworks the artists and curators used to frame the work, paying close attention to recurring terms like "symbiosis," "network," "tradition," and "ecology." Third, data was gathered via semi-structured interviews with the

artists and curators involved in each project. These interviews explored the artists' motivations, conceptual underpinnings, technical processes, and their perspectives on the relationship between art, science, and their specific cultural context. Questions focused on their choice of biological media, their understanding of collaboration with non-human entities, and the intended impact of their work on the audience. The collected data from all three sources were then synthesized and subjected to a rigorous thematic analysis, guided by the study's primary theoretical frameworks of rhizomatics and multispecies storytelling. The analytical process involved an iterative coding procedure to identify recurrent patterns, concepts, and relationships across the four case studies. Initial codes related to materials ("mycelium," "orchids"), processes ("weaving," "sonification"), and concepts ("pollution," "indigeneity"). These initial codes were then clustered into more abstract, interpretive themes that formed the basis of the Results section. This method allowed the analysis to move from descriptive accounts of the artworks to a higher-level interpretation of their collective cultural and ecological significance.

3. Results and Discussion

A central finding of this study was the pervasive influence of a rhizomatic logic in the conception and execution of the artworks, in Figure 1. This was evident not only as a visual metaphor but also as a fundamental operational method. The artists intentionally created works that were acentered, non-linear, and resistant to singular, hierarchical interpretation, mirroring the complex, interconnected nature of ecosystems. In Indonesia's Myco-Cosmologies, the rhizome was literalized.[11] The sprawling network of tempeh mycelium formed a visible, tangible representation of a decentralized system. The artists explained in their interview that their primary goal was to "let the fungus dictate the form." They established the initial conditions—a pile of e-waste and the fungal culture—but the final aesthetic outcome was an emergent property of the mycelium's growth, its cottony white hyphae unpredictably colonizing the discarded circuit boards and plastic casings, creating new aesthetic textures and forms. This process of organic takeover was a powerful visual statement on nature’s ability to form connections across the organic/inorganic divide. The sound component further reinforced this principle; the generative gamelan music was not a pre-composed loop but a direct, real-time translation of the distributed electrical activity across the entire fungal network. Fluctuations in moisture, temperature, and growth rate caused shifts in the pitch and tempo of the soundscape. There was no central "brain" or conductor; the soundscape was a holistic expression of the entire living system, a perfect sonic analogue to a rhizomatic assemblage. Similarly, Thailand's Luminous Sentinels operated as a distributed, rhizomatic network of biological sensors. Unlike a centralized, state-operated pollution monitoring station with a single point of data collection, the artwork consisted of dozens of individual orchids, each an autonomous node in a wider network. The collective glow of the grove provided a decentralized, ambient visualization of the city's atmospheric health, where patterns of light would shift across the park in response to air currents carrying pollutants. The artist noted that the work's power lay in its multiplicity: "One orchid tells you nothing. But the field of orchids, breathing with the city, creates a living map. It’s a network of communication between plant, air, and people, without a central server." This structure resisted a single data point, instead offering a complex, fluctuating field of information that required the viewer to engage with the system as a whole, observing patterns and drawing their own conclusions from the collective behavior of the plant network. Even in the Philippines' Ancestral Weave, which involved the traditional and highly structured craft of weaving, a rhizomatic principle was at play. The project was not a static object but a living, growing tapestry that was continually being added to by the community, with new plants being integrated and older ones sometimes dying back, changing its form over time. More importantly, the knowledge it embodied was rhizomatic. According to the artist, the tapestry was a "non-linear archive." Each plant woven into it connected to a web of stories, medicinal uses, and

ecological relationships shared by the Tagbanwa elders. The artwork functioned as a nodal point connecting botany, oral history, craft, and activism in a way that defied simple categorization.[12] Touching one plant would lead an elder to tell a story that connected to another plant, which in turn related to a specific weaving pattern, forming an endless chain of interconnected biocultural knowledge. It was a network of meaning made manifest.

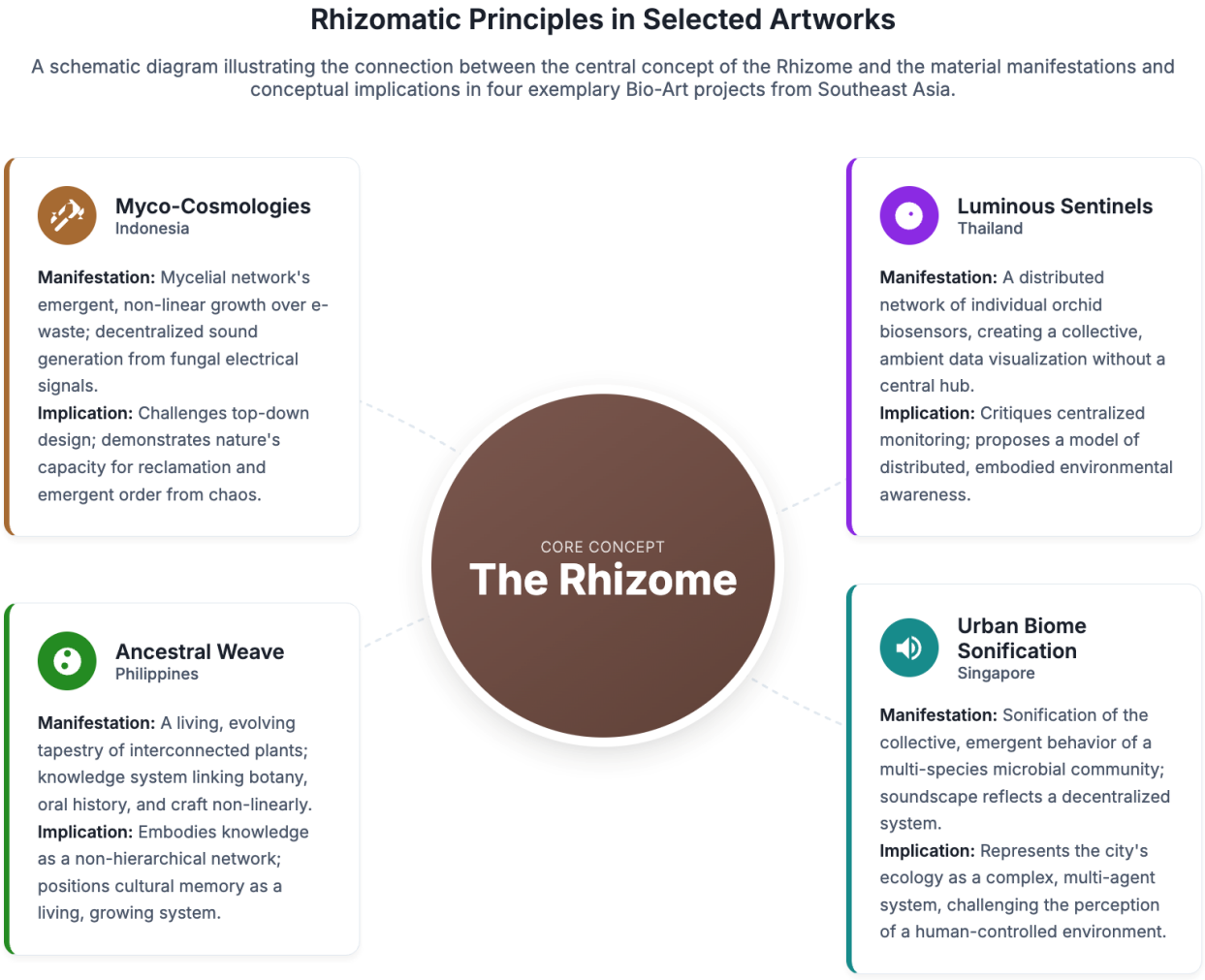

Figure 1. Rhizomatic principles in selected artworks.

A second major theme that distinguished these Southeast Asian practices was the deliberate and sophisticated syncretism of advanced technoscience with deeply rooted TEK, in Figure 2. The artists did not present these two knowledge systems as oppositional but rather wove them together, creating hybrid forms that demonstrated a unique regional approach to Bio-Art. *Luminous Sentinels* was a prime example. The project relied on cutting-edge synthetic biology—specifically, the use of a gene gun to insert luciferase genes into the orchid's genome. This high-tech process, however, was applied to an organism, the orchid, that holds immense cultural significance in Thailand. The artist explicitly chose the *Vanda coerulea*, a native species, and spoke of the project as an attempt to "give our traditional symbols a new voice for the 21st century." The process involved not just scientific expertise but also collaboration with traditional orchid growers to ensure the modified plants would thrive. The glowing orchid was not just a

piece of biotechnology; it was a cultural icon re-engineered to speak about a contemporary crisis, bridging the world of the molecular biology lab with the world of traditional Thai aesthetics and national symbolism.[13] In *Myco-Cosmologies*, the use of tempeh mycelium was a deliberate choice to ground the work in Indonesian culture. Tempeh, a staple food, is a product of indigenous fermentation technology that has been practiced for centuries. The artists combined this ancient biological process with modern electronic sensors and digital sound synthesis. They described their work as a form of "techno-animism," where they used contemporary tools to listen to and amplify the vital energy, or *semangat*, of a culturally significant organism. The project venerated the fungal intelligence inherent in a traditional food source, using technology not to master it, but to enter into a dialogue with it. The very act of cultivating the mycelium followed traditional methods passed down through generations, even as its signals were being processed by modern algorithms. The most profound integration was found in *Ancestral Weave*. While the project did not use advanced biotechnology, it represented a fusion of ethno-botany (a science) with the Tagbanwa community's ancestral knowledge (a tradition). The artist's role was that of a facilitator, bringing her knowledge of contemporary art and ecological science to collaborate with the community's deep, place-based understanding of the forest ecosystem. The "data" embedded in the tapestry was the TEK of the Tagbanwa elders—knowledge about which plants stabilize soil, which ones have healing properties, and which ones are indicators of a healthy forest.[14] This scientific and cultural knowledge was encoded not in digital bits, but in the physical structure of the weave, representing a powerful fusion of art, science, and indigenous cosmology in the service of conservation. The project became a site for intergenerational knowledge transfer, documented using both video recordings and traditional oral methods.[15]

Across all four case studies, a core objective was to decenter the human and create narratives from the perspective of non-human actors.[16] The artworks were designed as platforms for multispecies storytelling, where plants, fungi, and microbes were positioned as protagonists and communicators, Figure 3. Singapore's *Urban Biome Sonification* was perhaps the most direct example of this. The entire work was an act of translation, turning the invisible life of the Singapore River into a human-perceptible sensory experience. The artist stated, "My role is not creator, but amplifier. The bacteria are the composers. The shifting harmonies and dissonances you hear are the story of their life—of their competition, cooperation, and response to the toxins in their environment." The work effectively gave an audible voice to a microbial community. The resulting soundscape was complex and unpredictable; periods of harmonic calm would be interrupted by bursts of chaotic noise, sonically mapping events like a sudden chemical spill or the bloom of a particular bacterial colony.[17] It told a story about urban ecology from the perspective of its smallest, most overlooked inhabitants. The narrative was one of constant flux and adaptation, a stark contrast to the highly controlled and static nature of the surrounding city-state. Similarly, the glowing orchids in *Luminous Sentinels* were framed as storytellers. They were narrating the invisible story of Bangkok's air. Their gentle, fluctuating light was a form of biological speech, a constant, silent commentary on the atmospheric conditions of the city. The audience was invited to "read" the orchids, to learn the language of their light, and to understand the urban environment from the plant's embodied perspective. The artist described watching the plants on a high-pollution day as "witnessing a silent scream." It was a story of vulnerability and resilience told not through human language but through photons emitted from living tissue, a direct biological testimony to an environmental reality. In *Myco-Cosmologies*, the fungus narrated a tale of decomposition and reclamation. By slowly consuming and transforming the e-waste, the mycelial network performed a story about the cycles of matter and the ability of biological life to reclaim the detritus of technological modernity. The viewer could witness, over weeks, a discarded keyboard being enveloped and softened by the white fungal growth. The accompanying soundscape was this story's soundtrack, a non-linguistic narrative of growth,

decay, and metabolic process.[18] The artists emphasized that they were staging a "collaboration" where the fungus was the lead actor, telling its own story of consumption and transformation on a stage built of human obsolescence. The sounds were the audible proof of its vitality and agency.

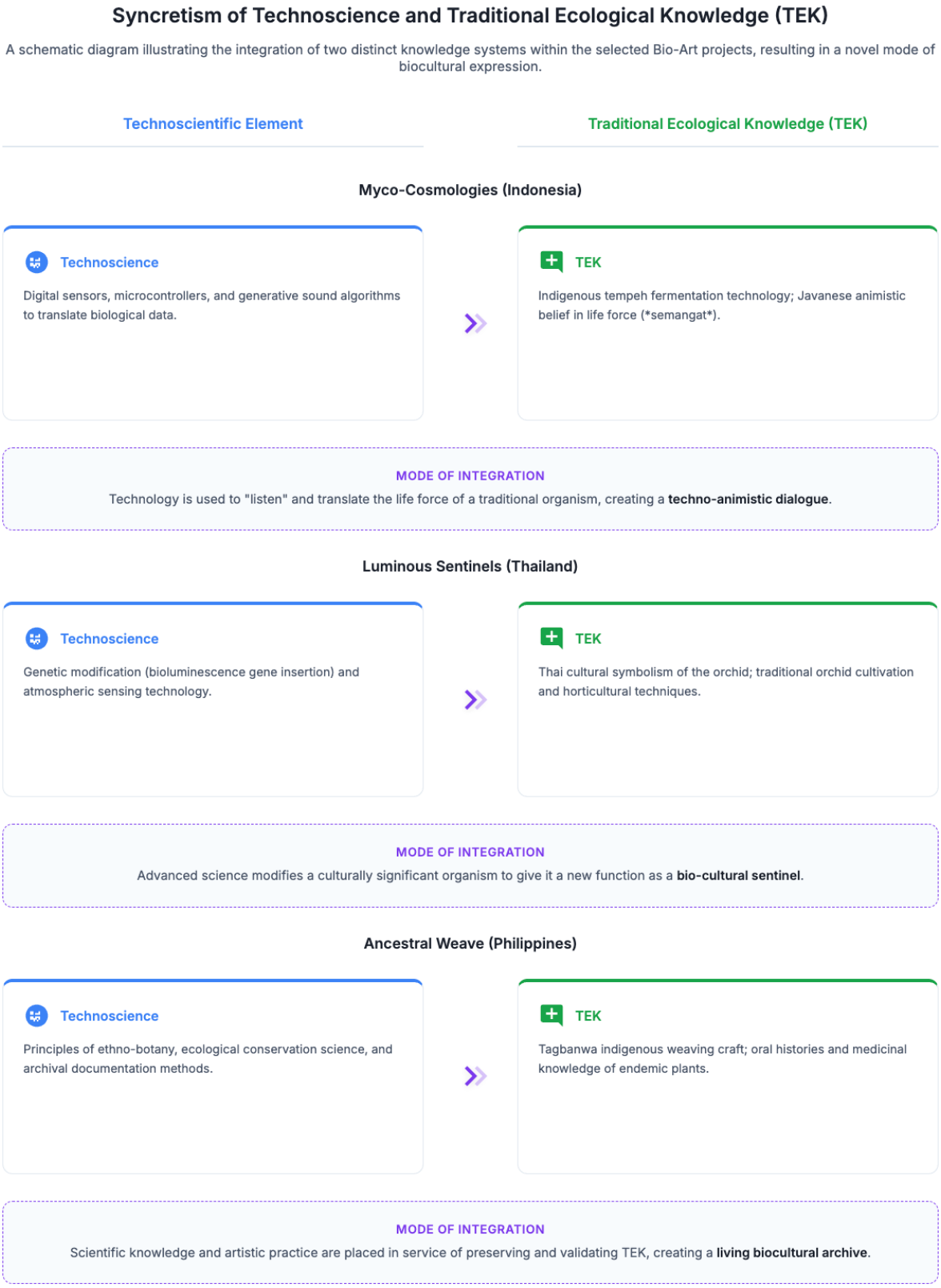

Figure 2. Syncretism of technoscience and traditional ecological knowledge (TEK).

Figure 3. Modes of more-than-human narration.

Finally, the analysis revealed that these artworks were not merely descriptive or didactic. They were carefully designed to produce powerful affective and emotional responses in the viewer, leveraging this affect to mount a subtle but potent political critique of specific environmental issues, in Figure 4. The beauty of the *Luminous Sentinels* was a key part of its critical function. The ethereal, magical glow of the orchids created a sense of wonder and enchantment. This aesthetic pleasure, however, was inextricably linked to a toxic reality. A brighter glow signified dirtier air. This created a profound sense of cognitive dissonance and unease in the viewer, a state the artist called "toxic sublime." The beauty of the work seduced the viewer into confronting the ugly reality of urban pollution. It was a gentle but insistent form of activism that

bypassed polemical statements in favor of a visceral, embodied experience that lingered long after leaving the park. The feeling of being enchanted by a symptom of poison was profoundly unsettling. *Ancestral Weave* cultivated a different set of affects: empathy and a sense of connection to cultural loss. The living tapestry, with its fragile, endangered plants, was a poignant symbol of the vulnerability of both the Palawan ecosystem and the Tagbanwa culture that depends on it.[19] Viewers were not just looking at a representation of loss; they were in the presence of the living entities that were being lost, able to touch their leaves and smell their scent. The collaborative and ongoing nature of the work fostered a sense of hope and resilience, but it was tinged with the sadness of the existential threat of deforestation and cultural assimilation, making a powerful political statement about the rights of indigenous peoples and the need for biocultural conservation. It generated an affect of protective care. The soundscapes of *Myco-Cosmologies* and *Urban Biome Sonification* also generated powerful affective responses. The low, resonant hums and occasional chaotic shifts in the gamelan sounds from the mycelium created an atmosphere that was at once meditative and unsettling. It evoked the vast, slow, and alien intelligence of fungal life, challenging the viewer's anthropocentric sense of time and consciousness. Similarly, the complex, sometimes cacophonous sounds of the Singaporean biofilm generated a feeling of being immersed in a vibrant but unseen world. It made the invisible life of the polluted river undeniably present, transforming an abstract environmental problem into an immediate and palpable sonic reality, critiquing the sanitized, nature-less veneer of the hypermodern city. The feeling was one of being surrounded by a powerful, unseen force, a humbling experience in a city built on human control.[20]

The findings of this study provide robust evidence for a "rhizomatic resurgence" within Southeast Asian Bio-Art, a movement characterized by distinct methodological and philosophical commitments. Figure 5 presents a comprehensive schematic that functions as the conceptual capstone of this study, visually articulating the intellectual architecture that underpins the research findings. This diagram provides a narrative map of the analytical process, illustrating how the study's three core theoretical pillars do not merely exist in parallel but actively converge and flow through an interpretive lens to give shape and meaning to the empirical results. The culmination of this process is the identification and definition of an emergent paradigm: a distinctly Southeast Asian Bio-Aesthetics. The figure is structured to guide the reader through this synthesis in a deliberate, three-stage flow, from foundational theories, through the interpretive process, to the emergent research outcomes and the final conceptual proposition. The uppermost tier of the diagram establishes the Theoretical Pillars, the three primary bodies of thought that provide the critical vocabulary and analytical framework for the study. Each pillar is represented as a distinct but related conceptual domain. The first, Decolonial Aesthetics & Rhizomatic Theory, is grounded in the work of Deleuze and Guattari and postcolonial scholarship.[13,14] It provides the tools to interpret artistic practices as acts of "epistemological disobedience"—forms of non-linear, acentered, and non-hierarchical resistance to the rigid, arboreal logics of colonial and neocolonial control. The second pillar, Multispecies Ethnography & Posthumanism, draws from thinkers like Haraway and Tsing to offer a framework for analyzing the profound entanglements between human and non-human actors. This lens focuses on processes of "biocultural symbiosis" and "interspecies diplomacy," critically examining how these artworks decenter the human subject and give stage to the agency of other life forms. The third pillar, Affect Theory & the Politics of the Sensorium, engages with the work of theorists who examine how art creates visceral, pre-cognitive experiences. This framework allows for an analysis of how these artworks engage in an "affective retraining of the senses," producing political critique not through didactic messaging but through embodied, emotional encounters with "vibrant matter." The visual flow of the diagram then directs these three theoretical streams downwards, converging on a central Theoretical Synthesis lens.[14,15]

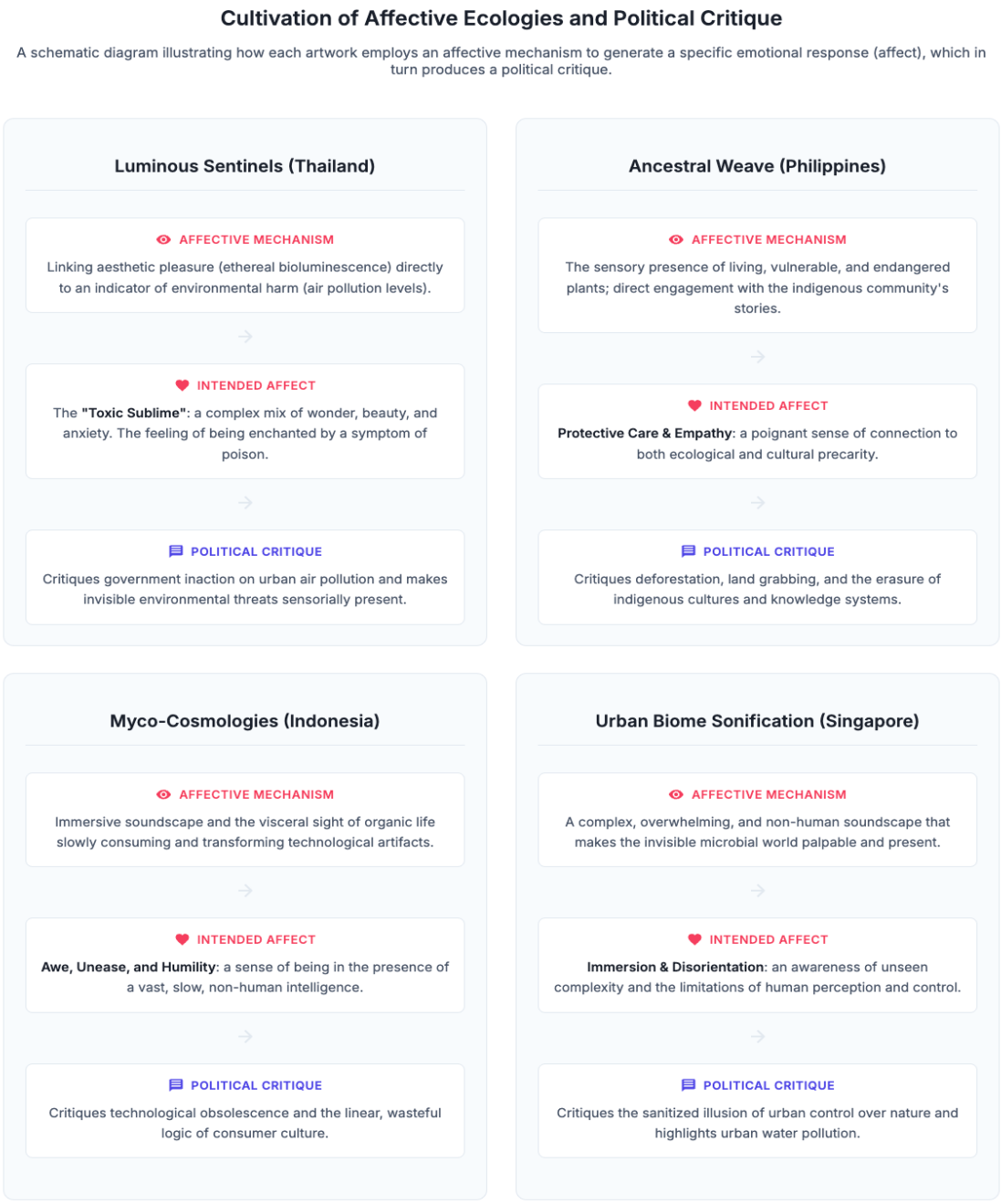

Figure 4. Cultivation of affective ecologies and political critique.

This element represents the core intellectual work of the manuscript: the active and deliberate integration of these frameworks into a cohesive analytical tool. It is through this synthesis that the research moves beyond simply applying individual theories and instead forges a new, multi-perspectival approach specifically tailored to the unique complexities of Southeast Asian Bio-Art. This lens is the engine of interpretation, refracting the insights from each theoretical pillar to illuminate the study's empirical findings.[16] Flowing out from this central synthesis, the diagram presents the four key Research Findings of the study. Each finding is now understood not as a raw observation, but as a theoretically-informed interpretation. "Rhizome as Method" is read through the lens of decolonial aesthetics as a strategic resistance to hierarchy. "Weaving Technoscience & TEK" and "More-than-Human Narration" are

interpreted through the framework of multispecies ethnography as practices of biocultural symbiosis and interspecies communication.[17] Finally, "Affective Ecologies" is analyzed through affect theory as a sophisticated mode of sensory political critique. The interactive design of the diagram, where hovering over a theoretical pillar highlights its corresponding findings, visually reinforces these crucial connections. The final and culminating element of the diagram is the foundational box at the bottom, which presents the study's central proposition: the existence of an Emergent Paradigm termed A Southeast Asian Bio-Aesthetics.[17,18] This concept is presented as the logical and synthetic outcome of the entire analytical process.

It is not merely a geographical category, but a distinct aesthetic and political modality defined by the confluence of the findings above. It is an aesthetic rooted in rhizomatic processes, committed to multispecies collaboration, fluent in both scientific and traditional knowledge systems, and politically activated through the cultivation of profound affective experiences. Ultimately, Figure 5 serves as a visual thesis statement, arguing that the convergence of these specific theoretical insights and empirical findings makes a compelling case for recognizing a new, vital, and regionally specific paradigm in the global landscape of contemporary ecological art.

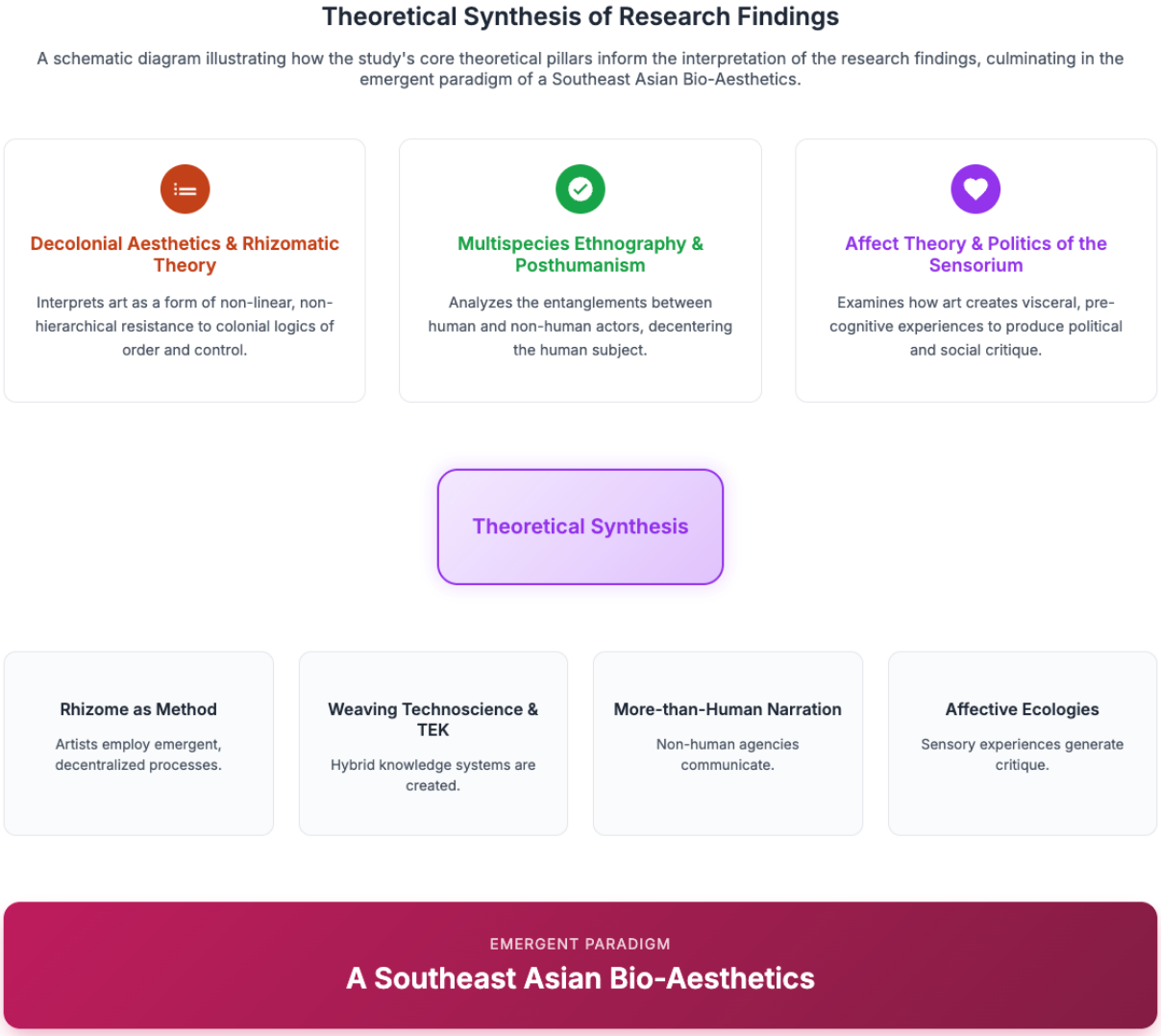

Figure 5. Theoretical synthesis of research findings.

The consistent deployment of rhizomatic structures in the analyzed artworks is more than a formal choice; it is a profound political and philosophical statement.[18] In the context of Southeast Asia, a region shaped by the hierarchical, arboreal logic of colonial administration and postcolonial nation-building, the rhizome functions as a powerful decolonial tool. Colonial systems of knowledge, such as monoculture plantation agriculture and Linnaean taxonomy, impose a rigid, top-down order on complex ecosystems and cultures. The artworks in this study actively resist this logic. *Myco-Cosmologies*' emergent fungal network, which overwhelms and repurposes the products of a globalized, hierarchical tech industry, can be read as a metaphor for the resilience of local, decentralized systems against monolithic global forces. This artistic method aligns with the critical dynamics of the rhizome, which operates through principles of connection and heterogeneity, dismantling binary oppositions such as nature/culture, traditional/modern, and local/global. The artists are not just depicting networks; they are creating them. *Ancestral Weave* physically connects indigenous botany, oral history, and contemporary art, forming a biocultural assemblage that asserts the validity of a knowledge system that has been marginalized by colonial science.[18,19] By adopting a rhizomatic process, these artists are performing a kind of epistemological disobedience. They are proposing that a more just and sustainable way of being in the world requires abandoning arboreal, single-trunk models of progress in favor of multiplicitous, interconnected, and ground-up ways of knowing and creating. The aesthetic experience of these works—their lack of a central focal point, their emergent properties, their resistance to a single interpretation—trains the viewer in a new kind of perception, one attuned to complexity, connection, and non-human agency.

The finding that Southeast Asian bio-artists consistently weave technoscience with TEK points to a critical process of biocultural symbiosis. This moves beyond a simple "integration" of two systems and instead describes the co-creation of a new, hybrid form of knowledge and practice. This resonates deeply with Anna Tsing's work on survival in "capitalist ruins," where she argues that novel forms of collaboration and co-existence emerge in landscapes disturbed by human activity. The artworks function as sites of this co-creation. In *Luminous Sentinels*, the orchid is no longer just a traditional symbol or a lab specimen; it becomes a symbiotic "orchid-sentinel," a new kind of being born from the fusion of cultural meaning and genetic technology. This process is the core operative dynamic driving the novelty of these works. It directly challenges the anthropocentric assumption that technology is a uniquely human tool for mastering nature. Instead, technology is used to foster interspecies communication and collaboration.[19] This aligns with Donna Haraway's call to "make kin" with non-human others, to forge new kinds of relationships in the face of ecological devastation. The artists are not imposing their will on their living media but are entering into what philosopher of science Isabelle Stengers might call a "diplomatic" relationship with them. They are co-creating meaning with fungi, orchids, and microbes. For instance, the sonification of the biofilm in *Urban Biome Sonification* is not the artist imposing a sound but rather creating the conditions for the biofilm's own vibrant materiality to express itself in a human-audible register. This is a profound ethical and political shift, reframing the artist's role from a solitary genius-creator to a facilitator of interspecies encounters. This practice of biocultural symbiosis offers a powerful model for how human and non-human worlds can co-evolve, not through domination, but through mutualistic entanglement.[19,20]

The strategic cultivation of affect is perhaps the most potent political dimension of these artworks. Rather than presenting audiences with didactic information or propagandistic messages about environmental crises, they work on the level of the sensorium, reconfiguring our capacity to feel and perceive the world. This approach is deeply connected to affect theory, which posits that our bodies are constantly engaged in pre-cognitive, visceral exchanges with our environment. The concept of the "toxic sublime" in *Luminous Sentinels* is a perfect illustration.[18] It creates an affective state where beauty

and dread are inseparable, forcing a visceral confrontation with the paradoxical nature of the Anthropocene, where the systems that support our lives are also poisoning us. This complex feeling bypasses rational argument and lodges itself in the body as a felt experience, making the abstract problem of pollution immediate and personal. This is a political intervention aimed at what might be called the "ecological sensorium." In a world where many environmental threats are invisible, abstract, or temporally displaced (like climate change), these artworks make those threats palpable. The unsettling hum of the mycelium in *Myco-Cosmologies* or the overwhelming sonic complexity of the urban biome makes the agency of the non-human world undeniable. It taps into what Jane Bennett calls "vibrant matter," the inherent capacity of all things, living and non-living, to have agency and to affect bodies.[20] By creating these affective encounters, the artworks disrupt the sensory numbness that often characterizes modern urban life. They retrain our attention, attuning us to the subtle signals and vibrant life of the more-than-human world. This affective retraining is a crucial precursor to political action; one must first be able to feel the entanglement with the world before one can be moved to act on its behalf. These artists are thus engaged in the crucial political work of engineering new sensibilities for a damaged planet.

Collectively, these findings demand a reframing of the global Bio-Art canon. The practices emerging from Southeast Asia are not a peripheral addition to a Western-defined field; they constitute a fundamental challenge to its core assumptions. While much canonical Bio-Art has been defined by its relationship to the laboratory, institutional science, and a critique of biotechnology rooted in Judeo-Christian ethics and Enlightenment humanism, the work analyzed here is defined by its relationship to the field, the community, and a critique rooted in postcolonial concerns and non-Western cosmologies. The emphasis on community collaboration in *Ancestral Weave*, the integration of animistic concepts in *Myco-Cosmologies*, and the repurposing of national symbols in *Luminous Sentinels* demonstrate a practice that is deeply embedded in its social and cultural context. This stands in contrast to the often "placeless" aesthetic of the sterile lab or gallery space. These Southeast Asian practices suggest an alternative trajectory for Bio-Art, one that is less concerned with the universal philosophical questions of "what is life?" and more engaged with the specific, situated, and urgent questions of "how can we live together?" on a particular patch of a damaged Earth. This represents a significant expansion of Bio-Art's critical potential, moving it from the realm of scientific ethics to the broader arena of biocultural survival, decolonial politics, and environmental justice. This rhizomatic resurgence from Southeast Asia is, therefore, a vital force, decentralizing the very map of contemporary art and insisting that the future of ecological art will be forged not in a single center, but across a network of diverse, localized, and entangled practices.

4. Conclusion

This study investigated the emergence of a distinct mode of contemporary Bio-Art in Southeast Asia, characterized by a rhizomatic logic and a commitment to multispecies storytelling. Through a multi-sited case study analysis of four projects from Indonesia, Thailand, the Philippines, and Singapore, this research identified a coherent set of practices that challenge and expand existing paradigms of ecological art. The key findings demonstrate that these artists consistently employ the rhizome as both a formal and conceptual tool, creating decentralized and emergent works that mirror the complexity of living systems. A defining characteristic of this regional practice is the sophisticated weaving of advanced biotechnology with Traditional Ecological Knowledge, forging a powerful synthesis of contemporary science and local heritage. This syncretic approach enables the creation of artworks that decenter the human perspective, instead amplifying the voices and agencies of non-human collaborators—fungi, plants, and microbes—to narrate complex ecological stories. Finally, these works operate through the cultivation of "affective ecologies," using sensory experience and aesthetic beauty to generate powerful emotional connections that spur critical reflection on urgent regional

environmental issues. The novelty and contribution of this research are found in its focused application of a rhizomatic and multispecies lens to the underexamined context of Southeast Asian Bio-Art. In doing so, it has articulated the contours of a significant artistic movement that offers a crucial counterpoint to Western-centric discourses. The study concludes that the "rhizomatic resurgence" in Southeast Asian Bio-Art is not merely a regional trend but a vital model for how artistic practice can foster the profound perceptual and ethical shifts required to navigate the Anthropocene. These artists are forging new forms of biocultural resilience and offering potent, life-affirming visions of a more-than-human future.

5. References

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