
Tourism Sympoiesis: Metamorphosis or Collapse

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Abstract

Tourism stands at a crossroads between transactional exploitation and regenerative transformation. As tourism grapples with its role and responsibility in the polycrisis, this conceptual paper introduces Tourism Sympoiesis as a way forward. Grounded in collective creativity and collaborative dynamics, Tourism Sympoiesis reimagines tourism as a force for multispecies collaboration and wellbeing. Drawing inspirations from nature's regenerative processes (e.g., autopoiesis, photosynthesis, metamorphosis) and contrasting historical travel paradigms, we argue that tourism must transcend sustainability's incrementalism to embrace systemic regeneration. Through transdisciplinary lenses, we propose Tourism Sympoiesis as a new identity for the sector, one that redefines tourism's purpose as living system capable of thriving in the face of planetary challenges.

Key Words *Sympoiesis, autopoiesis, regenerative tourism, planetary boundaries, transdisciplinarity, metamorphosis*

Track *Ethically Driven Innovations*

Focus of Paper *Academic*

Introduction

Tourism's transactional model geared towards prioritizing economic growth over ecological and social integrity has reached a crisis point. As Richardson et al. (2023) warn, six of nine planetary boundaries (including climate change, land system change, biosphere integrity, and freshwater use) have been breached, exacerbated by an accelerating of climate crisis (Hansen et al., 2025) and further collapsing of ecosystems (Gross, 2023). Tourism is a significant contributor to this dire situation (Gössling & Scott, 2024). The tourism sector faces a stark choice: perpetuate a downward spiral of ecological degradation and social inequity or catalyze a metamorphosis toward a collaborative and regenerative future. While the choice appears deceptively simple, the reality is fraught with systemic inertia embedded in decades of institutionalized practices where success is measured in arrivals, revenue, and occupancy rates rather than biodiversity restored or communities empowered. So the choice is not simple since the alternative, that is a regenerative approach, is not merely a shift in strategy but a rewiring of contemporary tourism's very logic.

This conceptual paper introduces 'tourism sympoiesis' (from the Greek sym-, "together," and -poiesis, "creation") as a paradigm shift, a fundamental redefinition of tourism's purpose away from an extractive transactional industry to a collaborative, life-affirming system. The term builds on Maturana and Varela's (1980) *autopoiesis* (self-regenerating systems) and Haraway's (2016) *symbiogenesis*, emphasizing interdependence (human and non-human actors) as the core principle of tourism's next era. Unlike sustainability's focus on 'humans as managers and stewards for the planet', sympoiesis invites stakeholders, (e.g. travelers, businesses, communities, and ecosystems) to co-create conditions for multispecies flourishing, where knowledge is co-produced in a transdisciplinary logic (all ways of knowing).

Tourism sympoiesis' can be proposed as tourism's new identity since it changes the way we conceptualize tourism's role in the web of life. Regeneration and regenerative tourism become the practical expression of sympoietic principles. As an analogy, *tourism sympoiesis* is equal to the constitution of a nation (e.g. defining its values and structure) whereas *regenerative tourism* represents the laws and policies enacted under that constitution.

This paper examines the antecedents, conceptual components, and definition of tourism sympoiesis.

Literature Review

From Autopoiesis to Sympoiesis

Like a forest regenerating after fire or a cell repairing its DNA, life thrives through self-renewal. Nature's innate capacity for self-regeneration has a name: autopoiesis. This section explores how autopoiesis creates a base for tourism sympoiesis.

Autopoiesis describes systems that self-regenerate, like living cells or resilient ecosystems (Maturana & Varela, 1980). The term 'regeneration' is commonly used to describe such a system, whereby regenerating degraded elements is a key component of autopoiesis (Luigi et al., 1996). Whether it is regenerative agriculture (viewing soil health as a living system) or regenerative architecture (adopting biologically inspired design approaches), regeneration is not just restoration (which focuses on restoring something back to a particular state) (Reed, 2007). While autopoiesis provides a starting point to understand regeneration, it focuses on self-preservation and thus lacks the collaborative dimension needed to heal fractured human-nature relationships. Sympoiesis extends the approach by emphasizing mutual interdependence and collaborative creation, critical for addressing complex planetary challenges. The journey from autopoiesis to sympoiesis provides the necessary insights for rethinking tourism.

Tourism sympoiesis emerges not in isolation but as a response to intersecting crises. Morin (1999) proposed the term 'polycrisis' to describe a situation when multiple major crises (economic, environmental, political, health, etc.) happen at the same time, interact with each other, and create a bigger, more complex problem than any single crisis alone. Tourism sympoiesis emerges from the polycrisis but also from an epistemological, and existential crisis driven by a simple yet powerful question: *what is the role and responsibility of tourism in the context of polycrisis?*

To fully grasp its transformative potential, we must examine its foundations through three interlocking lenses, each revealing key problems with tourism but also providing an understanding of how tourism can shift from extraction to regeneration.

First Lens: Extractive Exploration vs. Reflective Travel

Tourism's history reveals a fundamental tension between two opposing paradigms: one rooted in extraction and conquest, the other in reflection and reciprocity. On one side lies the legacy of colonial-era expeditions and resource-intensive ventures that treated nature as a commodity to be catalogued and claimed (e.g. Humbolt, 1834; Cronon, 1996; Harraway, 2015). These endeavors, requiring vast logistical support and institutional patronage, where landscapes and cultures became raw materials for imperial economies, an era continuing today and described by Moore being the 'Capitalocene' (2017). This extractive logic still undergirds mass tourism today, visible in the relentless pursuit of 'must-see' landmarks and the commodification of places as Instagrammable backdrops (Young & Markham, 2019; Gretzel, 2019).

In contrast stands an alternative tradition that privileges slowness, introspection, and deep engagement with locality. Emerging as early as the 18th century through literary critiques of grand tours (e.g. Beckford, 1783; de Maistre, 1796), this approach framed travel not as conquest but as a practice of mutual encounter and is a component of 'slow tourism' today (Fullagar, Marwell & Wilson, 2012). Where extractive tourism seeks to consume, reflective tourism asks how visitors might give back, anticipating contemporary movements such as regenerative tourism (Bellato & Pollock, 2023). This duality mirrors the artificial division between humans and nature that justifies exploitation (Plumwood, 2001) and points toward models (e.g. regenerative tourism) where travellers become participants in, rather than consumers of, living systems.

The persistence of this divide reflects tourism's unresolved identity crisis: an industry caught between the entrenched logic of resource extraction and the transformative potential of regenerative relationships. It begs the question: Can 'peak tourism' be mended through *tourism sympoiesis*?

Second Lens: Planetary Urgency vs. Tourism's Growth

The second lens confronts tourism's material toll on a planet buckling under climate collapse. Tourism is responsible for 8.8% of global greenhouse gas emissions (Sun et al., 2024). The climate impact of tourism is widely disproportionate, mirroring global inequalities with travellers from wealthy nations generating 155 times more emissions than those from lowest-income countries exposing an ecological injustice (Sun et al., 2024). It is, however, the growth which is a major challenge to harness. International tourism arrivals grew by 5% in the first three months of 2025, on track for a record-breaking year above pre-pandemic levels of 2019 (UN Tourism, 2025).

The growth story is the same across key sectors of tourism namely aviation and hospitality. Aviation's share of global CO₂ emissions is projected to triple by 2050 (ICAO, n.d.). Global tourism relies on mobility and flying is core to this sector accounting for up to 50% of all of tourism's emissions (Sun et al., 2024). Similar to the 'system of automobility' described by Urry (2004), tourism's mobility is structurally locked into fossil fuels with planes and cars as the core components. The hotel sector suffers a similar growth fate. With over 15000 projects in the global hotel pipeline and over 6000 hotels under construction by the end of 2024 (Lodging Econometrics, 2025), the hotel real estate sector is chasing records year after year. The hotel real estate sector has locked an estimated 46 million tonnes of CO₂e for the years 2025 and 2026 alone considering the embodied carbon and operational carbon over their 30-year lifecycle for the new hotel openings (Legrand, 2025). Finally, overtourism functions as a form of 'cultural metabolism', transforming sought-after places into commodified experiences, where social and ecological fabrics are collapsing under visitor influx (Mas de Xaxàs, 2024). This situation raises the following question: Is there an opportunity for *sympoietic repair* for the tourism crisis?

Third Lens: Nature's Wisdom vs. Design Principle

The third lens draws from biomimicry theory (Benyus, 1997) but expands it into 'symbiomimicry' (Albrecht, 2019) designing systems that replicate life processes based on human - non-human mutual benefits (Karpouzou, 2023). In order to set the stage for symbiomimicry, we can turn to nature's oldest innovation: photosynthesis. While oxygen release is often celebrated as its crowning achievement, this is merely a byproduct. Chlorophyll absorbs sunlight to split water molecules, fix carbon into glucose, and sustain entire ecosystems (RBS, n.d.). Photosynthesis is nature's quintessential regenerative process, sustaining life on Earth, and a model for symbiomimicry. Photosynthesis not only supports the plants themselves but also indirectly supports other life forms, including humans, by providing them with oxygen and being at the base of most food chains. However, photosynthesis converts only about 1% of all solar energy received into plant biomass (Atwater, 2023). From a business performance perspective, such a key performance indicator would raise

alarm in management circles. Yet, this ‘low performance’ is nature’s secret weapon: it enables adaptability across climates, enabling the vegetal world to spread and adapt in almost all climate zones and all types of light intensity on this planet from the extreme north and south to the equator.

A large portion of humanity lives in cities and urban tourism is on the rise (UN Tourism, n.d.). Cities are often reduced to concrete, asphalt and steel jungle. However they are ecosystems in their own right where humans have learned to adapt. The term ‘biophilia’ (Wilson, 1984) captures humanity’s innate bond with nature. However unabated urbanization has eroded this bond. Biophilic design (Kellert, 2016) attempts to repair this rift by integrating natural elements such as natural shapes, forms, patterns, processes, as well as colour and light into built environments. Yet biophilic design risks becoming a superficial aesthetic when it is implemented as a quick fix, sort of green veneers on unsustainable systems. Can sympoiesis anchor *collective creation* and *regeneration* in place-based and human-nature relationships?

The Metamorphosis Imperative

For decades, sustainable tourism has been like attaching wings to a caterpillar (Pollock, 2025) based on a patchwork of incremental fixes. The three lenses help us zoom in on an industry and social phenomenon – tourism - that requires true change. And true change requires a cocoon phase: a messy, uncomfortable paradigm shift (Pollock, 2025). Like a butterfly, tourism cannot emerge half-formed. It demands redesigning systems. Tourism sympoiesis is similar to forests: decentralized, mutualistic, and resilient. This approach aligns with the ‘web of life’ theory (Capra, 1997); the capacity to participate in nature’s self-organizing patterns.

Supporting Theoretical Framework

Tourism sympoiesis represents a shift from viewing tourism as a mere economic transaction to seeing it as a symbiotic interaction with regenerative practices that foster environmental stewardship and cultural preservation. This section elaborates on key principles of sympoiesis being interconnectedness, co-creation, and mutual benefits all housed under transdisciplinarity.

Tourism sympoiesis demands more than interdisciplinary collaboration: it requires *transdisciplinarity*. Transdisciplinarity is a radical integration of knowledge systems that dissolves the boundaries between academia, practice, and ancestral wisdom. This shift is not merely about combining disciplines but about *how* knowledge is produced and legitimized. Building on Nicolescu’s (2014) framework, van der Bijl-Brouwer (2022) identified three iterative dimensions of transdisciplinarity: (1) Purposive Transdisciplinarity, (2) Participative Transdisciplinarity and (3) Emergent Transdisciplinarity.

The first layer integrates academic disciplines (ecology, economics, cultural studies) to address tourism’s crises and is labelled as (1) Purposive Transdisciplinarity. Yet, the downside is that sustainability explored through the eyes of academia may lack transformative action (Pohl, 2011). For example, carbon accounting models may quantify emissions but fail to question growth paradigms. So the key here is to bridge theory and practice. In the tourism context, this can be exemplified by having ecological thresholds (science) informing tourism policies (practice) to align with climate justice goals (ethics).

The second layer consists of knowledge emerging from collaboration with those traditionally excluded from tourism planning. Participative Transdisciplinarity flips the script: instead of researchers defining problems, local communities set the agenda. It is a form of co-creation that challenges the assumption that expertise resides solely in institutions. Tools like participatory mapping and citizen science apps (e.g. iNaturalist, eBird, Coral Watch) operationalize this, turning tourists and local communities and staff into co-researchers by helping document biodiversity. This data feeds into scientific research, supporting better conservation action plans and deeper guest engagement and apps have been implemented by multiple lodges and resorts (e.g. Six Senses Laamu, Maldives; Nay Palad Hideaway, Philippines; Nikoi Island, Indonesia; Tiger Mountain Pokhara Lodge, Nepal) (Zschiegner, 2025).

The third layer, Emergent Transdisciplinarity, transcends Western epistemologies entirely, embracing *other ways of knowing*. This is knowledge that is not just in heads or that fits neatly into journals or textbooks, but knowledge in hands, heart and communities and may include indigenous wisdom, spiritual insights, and lived experiences. Extensive examples of categories of indigenous knowledge and associated to ‘regenerative tourism’ are presented by Higgins-Desbiolles (2025). This mosaic of wisdom that coexist and co-evolve is what Escobar (2020) calls ‘pluriversal knowledge’, a world consisting of many worlds. Emergent Transdisciplinarity is not tidy; it thrives in the ‘messy’ spaces where protocols clash, requiring unlearning.

Tourism Sympoiesis: A Constitution for a New Tourism

Tourism stands at a crossroads. It can continue as an extractive force accelerating the polycrisis or embrace its potential as a regenerative system that fosters multispecies collaboration and flourishing. In light of mounting social and environmental problems, this paper has argued that incremental measures are insufficient. Instead, tourism requires a metamorphosis, a fundamental rewiring of its logic. *Tourism sympoiesis* offers this new constitution, redefining tourism's purpose from transactional consumption to collaborative creation.

There are three pillars of tourism sympoiesis:

(1) From Extraction to Regeneration

Tourism sympoiesis rejects the traditional legacies of conquest, instead centering on reciprocity. This means dismantling the commodification of places and embracing slow, reflective travel that nurtures place-based relationships.

(2) From Growth to Thriving

The relentless pursuit of arrivals, flights, and hotel pipelines is incompatible with planetary boundaries. Tourism sympoiesis measures success by *thriving*: biodiversity restored, carbon sequestered, communities empowered while amplifying regenerative practices

(3) From Human-Centric to Multispecies Co-Creation

Tourism sympoiesis dissolves the artificial human-nature divide. Drawing from symbiomimicry, tourism must emulate nature's mutualistic networks—where hotels function like forests, waste becomes food, and travelers participate in ecological stewardship. Transdisciplinarity bridges Western science, Indigenous knowledge, and lived experience to guide this shift.

Tourism sympoiesis is not a utopian ideal but an urgent, actionable framework. It invites us to reimagine tourism as a living system. The task ahead is to operationalize this paradigm, ensuring tourism becomes a covenant of care rather than a vector of crisis.

Limitations and further research

As a conceptual paper, this paper prioritizes theoretical framing over empirical validation, leaving the practical implementation of tourism sympoiesis a critical avenue for future research.

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