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Designing a “bioregional regenerative economy”: how could that work, realistically?

The cross-scalar spiral as an actionable heuristic for designing within bioregional complexity

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ABSTRACT

No doubt that we need to urgently transition towards economies that are sustainable, and even beyond sustainable, regenerative. Those, theoretically, regenerative economies need to focus on the (bio-)regional scale, given a spatial size that includes sufficient diversity and scale to build a regenerative economy. Thinking it through, critically, question-based, yet concrete: how could such an economy look like? What are the possibilities to create such an economy with the capacity to continuously regain its needed energies and resources to vitalize and sustain? To actively restore degraded systems, and to create regenerative cultures, which are rooted in cooperation, not in competition? Specific to different bio-regional assets, and cultures? We propose the cross-scale spiral of autopoietic complexity, with its eight scales of governance, as an actionable heuristic to envision what a bioregional economy may comprise, and what governance needs to be established. This workshop is a question-based, partly visual dialogue around tangible entry assets for using the spiral heuristic, manifesting its governance implications together with very concrete illustrations

of what a regenerative economy may look like, practically. We build upon previous RSD contributions ("When is Systemic Design regenerative?", "Systemic Cycles – a bioregional prototype?") and deep dive into what needs to be implemented, and what maybe remains fuzzy? The outcome will be a largely enriched, critical yet tangible, visualized dialogue with more concrete understandings and tools to design towards regenerative economies.

KEYWORDS: economy, bioregional, regenerative, cultures, transition, governance, autopoietic, relationality, visual dialogue

RSD TOPIC(S): Methods & Methodology, Policy & Governance, Socioecological Design

Topic Description

Building off the authors' previous RSD contributions on "When is Systemic Design Regenerative?" (Swat et al., 2019) and "Systemic Cycles [...] A bio-regional prototype" (Luthe et al., 2021), this workshop session aims to continue unpacking the practical application of regenerative economies and designing with complexity through the author's cross-scalar spiral heuristic and further applicable elements of what a regenerative economy on the bioregional scale may comprise.

Participants will use the spiral to elicit tangible examples of systemic design governance processes – pulling from their diverse cultural and disciplinary backgrounds as "entry points" to critically question and expand current understandings of regenerative economies.

Considering the urgency of the social-ecological crisis (cite), there is growing awareness of the need to move beyond solely "sustaining" linear systems and destructive status quo and fundamentally transforming globally dominant paradigms into ways of knowing and being that are regenerative, or continuously life-giving, and aligned with holistic planetary health (Fazey et al., 2020; Reed, 2007). While many Indigenous cultures have long practiced and embodied regenerative ways of being (Salmón, 2000; Sharma & Kanta, 2021), academic scholars and practitioners across diverse fields are starting to explore this "regenerative" shift through different aspects of society, from tourism (Bellato et al., 2022; Cave et al., 2022) to agriculture (Brown et

al., 2021; Gosnell et al., 2019) to the built environment (Camrass, 2022; Cole, 2012; Du Plessis, 2012). However, there lacks specificity and practical application for the broader umbrella of regenerative economies (e.g. Morseletto, 2020)). For example, while some public discourse tends to label an established understanding of Circular Economy (CE) as a potentially regenerative approach, scholars are increasingly highlighting the limitations of CE as insufficient for tackling the social-ecological crises, since it is based on a consumptive economic model, rather than a deeper paradigm shift of how resources are conceptualized (Haupt & Hellweg, 2019; Stephan, 2022).

Instead, furthering practical understandings of regenerative economies could benefit from a more place-based, bioregional governance approach, which is based off many ancient Indigenous stewardship practices from around the world (Kothari, 2014; Shrishtee et al., 2022). Bioregionalism is centred around the awareness and active participation of multi-species interconnectedness, where humans are deeply rooted in ever- changing social-ecological systems, like watersheds, cultural customs or animal migration (Mendly, 2022; Thackara, 2019). In designing regenerative communities and economies, the bioregional scale is considered an optimal size for spatial proximity, biodiversity and diversity of economic activity – for humans to thrive without jeopardizing life-giving resources (Fanfani, 2020; Wahl, 2016).

But – how would a regenerative economic system, with a focus on the bioregional scale, really look like? It is underdeveloped how a bioregional perspective can be operationalized within the complexity of designing and governing an economy across a wide range of scales, and what the notion of a regenerative economy implies, in fact. Building upon published work (Wahl, 2016), the cross-scalar spiral acts as a concrete, visual heuristic for more regenerative and holistic decision-making: all design, and therefore economic, choices have either indirect or direct impacts from the smallest chemical components to global supply chains as of transnational cooperation (Figure 1). The diagram's spiral format aims to graphically express the sympoetic and circular relationships between and across the eight scales – green chemistry, raw materials, products, buildings, communities and services, landscapes, bioregions and transnationalities. Based on the common functional Fibonacci spiral found in nature, this heuristic visualizes continuous emergence across nested scales as a recursive process, also the circular flows and different forms of capital at each scale and the

blurred, overlapping boundaries between each. The bioregional scale is centralized as a “leverage point” in connecting smaller, nested scales to broader transnational networks, which can help designers, economists and policy makers understand where to prioritize decision making.

Thus, one aim of this contribution is to use this conceptually simple eight-scaled spiral to explore more practical applications, implications and visions of regenerative economies and ways of living as complex and resilient systems, with a focus on the bioregional scale. The authors have received positive feedback in the past year testing this heuristic with a wide range of audiences – from students in recent System-Oriented Design (SOD) Bachelor, Master and executive courses at The Oslo School of Architecture and Design, practitioners within the newly launched ETH Zurich MOOC Designing Resilient Regenerative Systems, and business executives during leadership programs at the MonViso Institute.

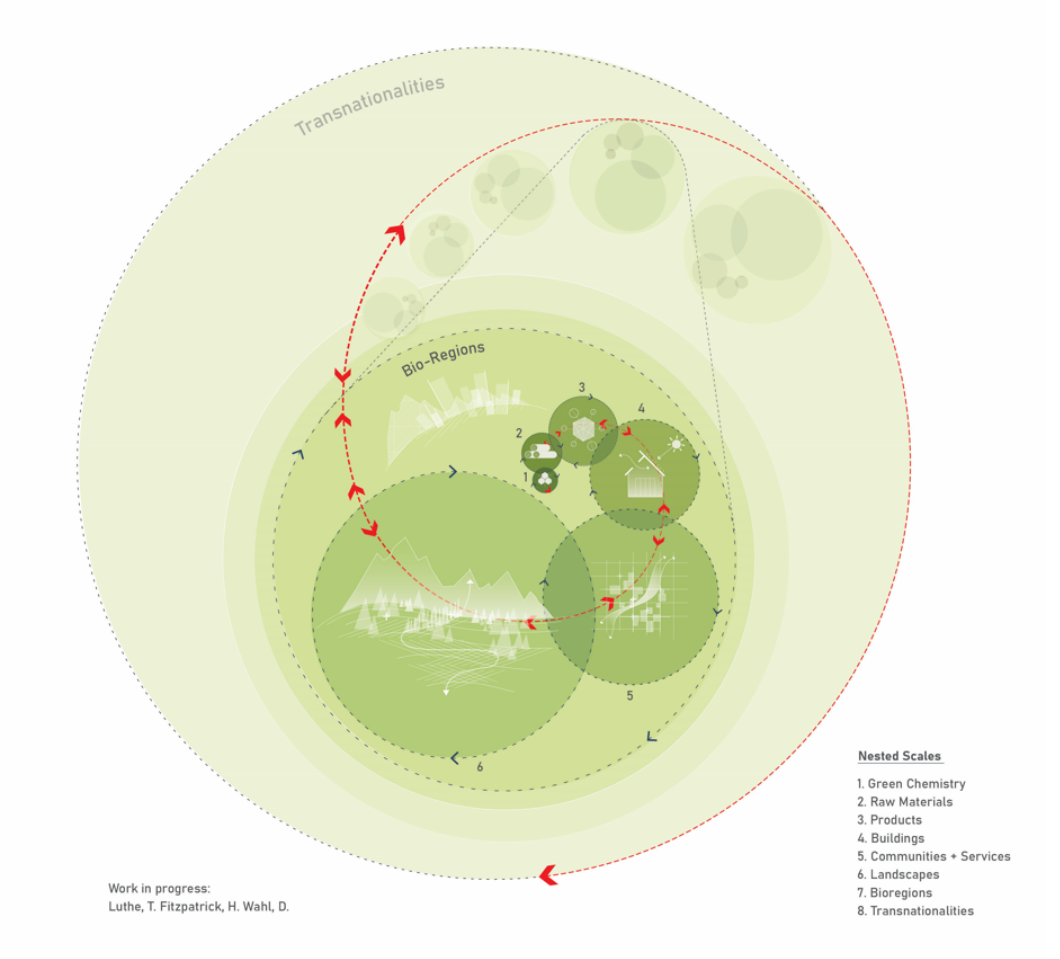

Figure 1: The cross-scalar spiral for designing and governing regenerative, resilient systems

Workshop Format (90 minutes) – either in-person, online, or hybrid

(Note: this workshop can be done very well online, using Miro; and it can be done in-person, but the Miro board will be beneficial even in-person. Thus, a hybrid format is imaginable, too).

Framing (10 min) The authors will introduce the cross-scalar spiral, frame how a bioregional perspective can contribute towards more tangible understandings of regenerative economies, and how the spiral can inform governance processes for building a regenerative economy. The authors will then provide a quick walk through of the workshop aims, setup, and elements, including illustrative examples how the steps of collecting a scale-representing item, describing the own bioregional space, envisioning concrete elements of a regenerative economy through questions, may manifest in the following.

Collecting (20 min): Participants will be invited to 1. collect an item from their physical space that best represents one of the eight governance scales (for example, if someone choses a painting of a town, the associated scale would be “communities and services”), in relation to 2. describing the bioregion they currently live/work in. Ideally, the concept represented by the item connects to something from their own cultural or professional background, and their region. Then, they will upload a photo or make a quick sketch of the item in the digital space (provided Miro board), on a cross-scalar spiral wireframe, and briefly describe their bioregional scale (e.g., Oslo and the Oslo Fjord region; or London and the outskirts; generally speaking of a radius of about 50km), while uploading a quick regional map (e.g. Google maps).

Envisioning: (20min): Participants will be subdivided into subgroups (break out rooms) to discuss and visually sketch cornerstones of elements that may describe how a regenerative economy could look like, practically. In relation to and starting from their selected item (=scale), participants will envision concrete aspects of a regenerative economy and its embedding across scales, asking questions such as:

- What and where is food produced within the bioregional focus? How is the land used?
- What is the water system that is climate resilient?
- Where and how is energy produced?
- How are transportation systems organized?
- How do cities integrate with the rural?
- (...)

Connecting (20 min): Then, participants will map the connections between the chosen items, the five different circular flows (energy [carbon], water, material/matter, economic, social; Luthe 2020) and their relationship to the other scales – within some of their bioregional specifications, illustrated through the questions of the previous step. The facilitators will periodically visit each break-out room to clarify any questions and stimulate critical reflection for this visual dialogue:

- Does the chosen scale represented by the item reflect a deep connectedness to their bioregion?
- Who were involved in creating the chosen item? What dominant systems and social structures are embedded in its creation?
- How does one's worldview shape why the item was chosen and how it relates to each scale?
- How do different concrete elements of a bioregional economy relate with the cross-scale governance perspectives?

Reflecting (20 min): Participants will return to the main digital room and share their recreated spirals and discuss the "missing links" in how the items, their cross-scale integration, and their bioregional specifics currently align or not align with a regenerative economy and bioregional way of living:

- How realistic, how applicable, how concrete really is a bioregional economy that tends to become regenerative?
- What specifically needs to change, at what scales and circularity flows, to realign the item to better social-ecological harmony? Where are some "hubs" of leverage?

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