INNOVATION FÜR DIE GESUNDHEIT UNSERES PLANETEN

INNOVATION FOR PLANETARY HEALTH

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Regenerative Design

Regenerative design urges us to move beyond merely minimising harm or maintaining the status quo; it advocates for actively restoring and enhancing the health of society and the environment (Reed, 2007). «1

This transformative approach emphasises systemic thinking and the capacity to envision radically different futures, transcending the limitations of incremental innovation.

Central to regenerative design is developing a holistic understanding of a specific place to identify interventions that maximise systemic potentials while considering those who will steward these initiatives. As Mang and Reed (2020) highlight, it is crucial to ask, »what is the potential inherent in a living system, since this is the fuel for regeneration—the constant reaching toward being more whole, being more alive? «2

Understanding Nature and Systems

The Western view of nature as separate from humanity, has reinforced a narrow understanding of design and innovation, prioritizing short-term visions and technological advances over holistic ecological approaches. We urgently need to change this mindset, acknowledging that humans are intrinsically part of nature, and fostering care for the relationships that sustain life and ecosystems, rather than perpetuating the belief in separation or superiority over it. As highlighted by Daniel Wahl (2016), we need a fundamental transformation of our production and consumption systems to align with bioregions and ecological principles. «3.

Principles of Regenerative Design

Regenerative design aligns with living principles and moves beyond sustainability to actively restore ecosystem health (Wahl, 2016). This approach requires:

-Making health-promoting (salutogenic) design an operational imperative;

-Designing simultaneously for human, ecosystem, and planetary wellbeing;

-Fostering local-regenerative cultures valuing ancestral knowledge;

-Taking whole systems responsibility for both human and non-human stakeholders;

-Challenging the prevailing assumptions regarding current lifestyles offering regenerative alternatives

Case Studies in Regenerative Innovation

AI-Powered Pollinator Gardens

Daisy Ginsberg's Pollinator Pathmaker project demonstrates how artificial intelligence can serve ecological restoration with a more-than-human approach. The system creates customized garden designs that attract pollinators, using AI to optimize plant selection based on local conditions.

Regenerative Cotton Farming

Materra, founded by RCA graduates, works with Indian farmers to transition from conventional chemical-based to regenerative cotton production. Their innovative approach includes:

-Training farmers in regenerative practices;

-Connecting farmers directly with regenerative cotton buyers;

-Developing a multilingual support app that provides real-time assistance and LCA metrics.

Mycelium Burial

Loop's living cocoon, made from mycelium and hemp, represents an innovative approach to end- of-life design. The coffin biodegrades within 45 days while enhancing soil biodiversity.

Regenerative Fibers for Insulation

Ponda, founded by RCA graduates, is a biomaterials company that develops innovative textiles through regenerative fiber practices. The company focuses on the regeneration of damaged wetlands by partnering with farmers to cultivate *Typha latifolia* through paludiculture, a practice that prevent the degradation of peatlands, which are valuable carbon sink. The seed head fibers of Typha lati- folia serve as a valuable insulation material in the textile industry, offering an alternative to feathers and synthetic materials.

Educational Integration

A series of workshops at the MA Fashion program at the Royal College of Art showcased how regenerative design principles can be integrated into design education:

Material & Supply Chain Awareness Exercise

Students examine their own clothing to understand material composition and supply chains, revealing gaps in basic material and supply chain knowledge among design students.

Local Food Workshop

A practical exercise restricting ingredients to a 20km radius demonstrating the challenges and opportunities of local sourcing while encouraging creative local approaches.

Workshop co-designed with Louis Alderson Bythell and Lee Roach.

Life Cycle Assessment (LCA) Workshop

Students were introduced to Life Cycle Assessments (LCA) of garments from cradle-to-grave through a collaboration with Green Story, a digital platform offering comprehensive data on the environmental impact of products across their lifecycle. The session began with an overview of LCAs in the textiles and fashion sector, followed by a hands-on workshop where students engaged with Green Story's software to input crucial supply chain data. The software highlighted the environmental impact of different materials and global versus local supply chains, enabling students to critically assess the implications of their choices.

The Green Story LCA workshop emphasized the importance of evaluating environmental impacts at every stage of a garment's lifecycle, fostering a deeper understanding of more ecological design practices. It also elicited critical reflections on the limitations of LCA metrics in capturing the full complexity of environmental and social dimensions within design processes.

Workshop co-designed with Savithri Bartlett

Regenerative Farm Visit

Field trip to Margent Farm (regenerative hemp farm) introduced the students to how regenerative principles work in practice, connecting agricultural regenerative principles with design as its fibers can be made into biomaterials for architecture, design and fashion. The visit also included a trip to Paloma Gormley's ›Flat House‹ exemplifying a regenerative approach to architecture by integrating hemp and environmentally conscious design principles. During the visit, students explored Margent Farm's innovative use of hemp fiber into corrugated sheets which are locally produced and bound with a sugar-based resin derived entirely from agricultural waste.

Workshop co-designed with Louis Alderson Bythell and Lee Roach.

The Role of Regenerative Design Innovations

Design education holds a unique position to foster regenerative thinking through:

-Experiential and embodied learning that engages multiple senses

-Development of critical and reflective thinking skills

-Enabling the understanding of complex systems

-Creative visioning of alternative futures based on ›futuring‹ local cultures and more-than-humans.

The integration of regenerative principles into design education creates opportunities for innovation that benefits both human and natural systems while maintaining economic viability.

Workshop

How would you make the design curricula more aligned with regenerative strategies?

Context: Industrial Design

1. Core questions

-What would you say are the main shifts needed in regenerating that design curricula?
-Where could you regenerate by injecting health (give back to the environment and society)?
-Describe how the suggested regenerative curricula is the valuing/caring for communities and nature.

2. Implementation questions

-Which non-designer experts would you bring on board? Why?

-How would you address systems literacy and embodied education?

3. Draw/diagram the answer.

References

[1] Reed, Bill. 2007. Shifting from Sustainability to Regeneration. Building Research & Information 35, no. 6: 674–680.

[2] Mang, Pamela, and Bill Reed. 2020. Regenerative Development and Design: A Framework for Evolving Sustainability. Hoboken, NJ: Wiley.

[3] Wahl, Daniel Christian. 2016. Designing Regenerative Cultures. Axminster, UK: Triarchy Press.