

Can real-world labs reach through the fog?



 Prof. Dr. Christoph Kueffer

Eastern Switzerland University of Applied Sciences | ILF Institute for Landscape and Open Space | Rapperswil | CH | kueffer@env.ethz.ch

Sustainability science attempts to become more transformative. An era of believing in a green economy comes to an end. Few still trust that a decoupling of growth and environmental impact is possible. But what is transformative research? One answer is: real-world laboratories (RwLs). Such transdisciplinary labs aim at societal transformations through situated and experimental social learning processes. The hope is that expertise-based and consensus-oriented deliberation and pragmatic action will help to transgress problematic socio-political, institutional and economic realities.

Given *GAIA*'s decades-long strong position at the intersection of sustainability science and transdisciplinarity, and its new focus on sustainability transformations, it is not surprising that *GAIA* has become a leading journal for scholarly work on RwLs. A first and highly cited Special Issue (SI) on RwLs was published in 2018,¹ several important articles followed, and now this SI presents the current state of the art. It results from a conference with several 100 participants, and the articles also demonstrate the impressive maturation of the field. Most of them are based on multi-case comparisons and/or long-term and comprehensive studies.

The focus of the SI is on impact. Amongst others, two lessons can be learnt. First, impacts of RwLs are often hidden, delayed, unintended or indirect. Sustainability science should move beyond a paradigm of controllability.² What does “laboratory” and “experimentation” mean for problems that cannot be “understood” and “solved”? Second, a major unresolved question is how systemic and lasting change can result from RwLs. There won't be easy answers, but here are four thoughts as an invitation for others:

- Insights from RwLs should shape theory about the themes they address, for example on urbanism, biodiversity or economics. RwLs should be places of reflection as much as places of problem-solving.
- Solutions, failures and emotions from RwLs should be communicated in more engaging ways than through scientific and often generic analyses, for example through storytelling, political manifestos or Communities of Practice.
- RwLs cannot avoid being normative. There is no sustainable future without degrowth, deep ecology, real social justice and honest post-colonialism.
- Hannah Arendt believed in natality – the miracle of new beginnings. Beyond the consensual and pragmatic, RwLs should be speculative and provocative, inviting activism, and expecting disruptions.

A Taylor Swiftian mode of transformative sustainability science has advanced greatly in recent years, which is an important achievement. But we also need punk and metal, and free jazz and world music. Scientific research, as well as societal change, depend on irrational curiosity and irresponsible inefficiency. Or, in the words of Kae Tempest: “Creativity reached through the fog when nothing else could.”³

Christoph Kueffer

Member of the *GAIA* Editorial Board

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¹ Schöpke, N., M. Bergmann, F. Stelzer, D.J. Lang (Eds.). 2018. Labs in the real world. *GAIA* 27/S1.

² Kueffer, C., F. Schneider, U. Wiesmann. 2019. Addressing sustainability challenges with a broader concept of systems, target, and transformation knowledge. *GAIA* 28/4: 386–388. <https://doi.org/10.14512/gaia.28.4.12>.

³ Tempest, K. 2020. *On connection*. London: Faber.