

GAIA

ECOLOGICAL PERSPECTIVES FOR SCIENCE AND SOCIETY
ÖKOLOGISCHE PERSPEKTIVEN FÜR WISSENSCHAFT UND GESELLSCHAFT



BIOECONOMY POLICIES ON THE WRONG TRACK SOCIAL SCIENCE RESEARCH ON HYDROGEN TOWARDS A CARBON-NEUTRAL UNIVERSITY DISTRICT

GAIA is available online at www.ingentaconnect.com/content/oekom/gaia
www.oekom.de | B 54649 | ISSN print 0940-5550, online 2625-5413 | GAIAEA 32/2, 213–276 (2023)

Building a transdisciplinary future: Balancing collaboration and excellence



Theres Paulsen

Swiss Academy of Sciences
(SCNAT) | td-net | Bern | CH |
theres.paulsen@scnat.ch



Prof. Dr. Christian Pohl

ETH Zurich | Department of Environmental Systems Science (D-USYS) | Institute for Environmental Decisions | USYS TdLab | Zurich | CH | christian.pohl@env.ethz.ch

“Everything must change so that everything can stay the same.” This quote from the novel *The Leopard* by Giuseppe Tomasi di Lampedusa sums up the challenges of our time. Amidst an era of rapid change and social paradigm shifts, rethinking and renegotiating the social contract between science and society¹ is more urgent than ever.

20 years ago, the Swiss Academies of Arts and Sciences embarked on a mission to establish transdisciplinary research within the scientific system. The thought-provoking question “Inter- and Transdisciplinarity: Why – How?”, posed by Nobel laureate Werner Arber at a symposium in the 1990s², played a crucial role in this endeavor; as did Jürgen Mittelstraß’ papers in *GAIA*³ and the *Swiss Priority Program Environment’s* promotion of transdisciplinarity.

In pursuit of sustainable and healthy solutions to problems associated with digitalization, energy, pandemics, climate change, and migration, we must adopt holistic approaches that transcend traditional boundaries. Considering the interplay of cultural, social, and technical subsystems, how can science contribute to addressing these “grand global challenges”? After 20 years of tireless efforts, we have learned how transdisciplinarity offers opportunities to integrate perspectives, run real-world labs, and work with partners outside academia. While it is not a panacea, it serves to embed research in the social context.

The Swiss Academies’ *Network for Transdisciplinary Research, td-net*, has advanced transdisciplinary research in diverse areas. Over the last two decades, it has developed fundamental concepts, presented case studies, and collected methods and tools to make this form of research tangible. The knowledge base, which has been assembled by, among others, a nationwide collective of educators in the *Massive Open Online Course on Transdisciplinary Research*⁴, can be further expanded upon.

With its activities and projects, *td-net* has gradually brought together the transdisciplinary community in Switzerland and internationally. It is gratifying to witness the growth of this community, for instance, with the newly established *Gesellschaft für Transdisziplinäre und Partizipative Forschung*, or the working groups of the *Global Alliance for Inter- and Transdisciplinarity (ITD Alliance)*. Despite progress, however, certain questions persist: How can we promote this kind of research? How can we foster the required mindset and establish solid and attractive career paths within academia?

We believe that we are in an ongoing process towards a transdisciplinary future of science. In this future, collaborative and competitive competences will balance each other. This requires reconciling transdisciplinarity with the academic understanding of excellence. Against the backdrop of this dynamic, we need to cultivate the space for continuous dialogue, as the academies, professional societies, and research groups do, for example, within the context of *GAIA*.

Let the “leopard” inspire us to change the scientific system into a transdisciplinary one, where research remains excellent *and* achieves a profound social impact.

Theres Paulsen, Christian Pohl

1 Gibbons, M. 1999. Science’s new social contract with society. *Nature* 402 (Suppl 6761): C81–C84. <https://doi.org/10.1038/35011576>.
2 Arber, W. 1993. Einführung in die Thematik des Symposiums *Inter- und Transdisziplinarität. Warum? – Wie?* In: *Inter- und Transdisziplinarität. Warum? – Wie?* Edited by W. Arber. Bern: Haupt. 11–16.
3 See, e.g., Mittelstraß, J. 1992. Auf dem Wege zur Transdisziplinarität. *GAIA* 1: 250.
4 <https://go.transdisciplinarity.ch/mooc>