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Thirty years of GAIA: a constant in a fast-changing world

Prof. Dr. Helga Weisz

Potsdam Institute for Climate Impact Research | Potsdam | Germany and Humboldt-Universität zu Berlin | Berlin | Germany | helga.weisz@pik-potsdam.de

Prof. Dr. Christoph Kueffer

OST Eastern Switzerland University of Applied Sciences | Rapperswil | Switzerland | christoph.kueffer@ost.ch

D Prof. Dr. Drs. h.c. Ortwin Renn

Institute for Advanced Sustainability Studies (IASS) | Potsdam | Germany | ortwin.renn@iass-potsdam.de

Prof. Dr. Bernhard Schmid

University of Zurich | Zurich | Switzerland | bernhard.schmid@ieu.uzh.ch

Dr. Patrick Wäger

Empa | St. Gallen | Switzerland | patrick.waeger@empa.ch

all: GAIA Editorial Board





hen the first issue of *GAIA* was published thirty years ago, those were extraordinary times. With the fall of the Berlin wall in 1989, the German reunification in 1990 and the dissolution of the Soviet Union in 1991, the end of the cold war was declared, even "the end of history". The *United Nations Conference on Environment and Development* held in Rio de Janeiro in 1992 marked a major breakthrough in international environmental policy. Although not the first international conference devoted to global environmental concerns, the *Rio Earth Summit* was unprecedented in attracting attendance from around the globe (the first was held in Stockholm in 1972, the same year the seminal *Limits to Growth* report was published). It brought the concept of sustainable development into the political global agenda.

With sustainable development two notorious contradictions had to be – and still must be – overcome: the contrast between ecology and economy and between environmental protection and development. Against this background, the Rio summit led to two important international environmental treaties: the *United Nations Framework Convention on Climate Change* and the *Convention on Biological Diversity*.

It was clearly a time of awaking when *GAIA* was founded by scientists from three university institutes in Switzerland and Germany. Since then, the journal has been true to its founding mission of providing ecological perspectives on science and society based on rigorous scientific standards and the necessity for inter- and transdisciplinary approaches to sustainability and environmental science. In his editorial to *GAIA*'s 20th anniversary edition, Ortwin Renn, longstanding editor of *GAIA*, noted a growing gap between the almost ubiquitous commitment to sustainability and climate protection and the brutal fact that growth in greenhouse gas emissions continues and the loss of species and ecosystems increases. He pointed out that it was the continued goal of *GAIA* to lucidly evaluate where rhetoric and reality diverge, where well-meaning proenvironmental action is counterproductive, where complex issues are simplified and valid projections from complex models are ignored because they cannot be directly perceived.²

Sustainable development today: science of, and for, transformation is needed

Without exaggeration, the goal of *GAIA* is even more important today than it was ten years ago. On the one hand, commitments to sustainability and climate protection have become part of international protocols (e. g., the *Paris Agreement* and the *UN Sustainable Development Goals; SDGs*), and the *Fridays for Future* movement mobilized young people around the world to bring climate protection to the top of the political agenda. The European Commission, in its *European Green Deal*, pledged the EU would be carbon neutral by 2050. Even the financial sector has understood the importance of sustainable finance, not only because climate change might devalue assets in the future, but also by recognizing the necessity of evidence-based guidelines for directing investment and for achieving the targets of the *Paris Agreement* and the *SDGs*. In the scientific community inter- and transdisciplinary sustainability science has virtually exploded in the past decade, with increasing numbers of new professorships, funding opportunities, published papers and new academic journals.

On the other hand, global greenhouse gas emissions are still growing annually, with the exception of 2020 (a dip that is clearly attributed to the global COVID-19 pandemic).

Biodiversity loss is at an all-time peak.³ Moreover, inequality, whether measured as wealth distribution or income distribution, has continuously increased and, during the two years of the pandemic, the rate has accelerated. COVID-19 has given us first-hand experience of what exponential growth actually means, and while we were waiting for "the curve" to bend during each wave, another curve had already bent in 2014. The number of people who are undernourished globally was steadily falling until 2014. Since then it has started to rise again.⁴

GAIA in the arena of academic publishing

GAIA's mission to provide lucid inter- and transdisciplinary research that identifies the gap between rhetoric and reality, and to develop new solutions is more appropriate than ever. We will continue to present new scientific insights about the human-nature relationship and new ways of shaping this relationship.⁵

However, we need to acknowledge that *GAIA* fulfills its mission in an increasingly dynamic, competitive and fragmented social environment. For example, in the academic publication landscape in the past few years we have observed the most fundamental transformation in the history of academic publishing. Academic promotion committees and funding agencies around the world, despite some initiatives to reverse this trend such as the *Declaration on Research Assessment (DORA)*⁶, have increasingly turned to simple scientometric indicators (i. e., the number of publications, the *h-index* or the *journal impact factor*) to decide about academic careers and the allocation of research funds. At the same time, the easiness with which open access journals can now be established and run, and the increasing support of open access policies like *Plan S*⁷, have fundamentally changed both the incentives to which researchers are exposed, as well as those of academic publishers.

Since 2005 *GAIA* has been listed in the *Web of Science* databases, and the 2020 *journal impact factor* was 2.5. *GAIA* is exceptional as a scientific journal in ensuring a strong connection between the publisher, editors, reviewers, authors, readers and the editorial board. We organize annual two-day meetings of the community, and we annually offer the *Best Paper Award* and the *Masters Student Paper Award*. *GAIA* has a double-blind peer review system and accepted articles are carefully checked and, if necessary, edited by a professional office. Still, given the incentive structures and the new mass-production journals mentioned above, these features will not be enough to keep the journal successful in an increasingly competitive environment. A working group is now discussing how *GAIA* can deal with these challenges. Whatever the results will be, we will certainly keep true to our mission. We are very grateful to all our readers, reviewers, authors, editors, the editorial office, the publisher and the editorial board members for their enduring commitment to our joint endeavor.

Helga Weisz, Christoph Kueffer, Ortwin Renn, Bernhard Schmid, Patrick Wäger

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¹ Fukuyama, F. 1992. The end of history and the last man. New York: Free Press.

² Renn, O. 2012. Diamonds are forever - zum GAIA-Jubiläum. GAIA 21/4: 256-257. https://doi.org/10.14512/gaia.21.4.3.

³ See IPBES' 2019 global assessment report on biodiversity and ecosystem services:

https://knowledge.unccd.int/publications/ipbes-2019-global-assessment-report-biodiversity-and-ecosystem-services.

⁴ www.fao.org/state-of-food-security-nutrition/en

⁵ A particularly successful proposal was that of real-world laboratories (in German "Reallabore"), reported on in GAIA communications since 2013 and discussed broadly in the special issue Labs in the Real World published in 2018: www.ingentaconnect.com/content/oekom/gaia/2018/00000027/a00101s1.

⁶ https://sfdora.org

⁷ www.coalition-s.org