

**Reinhold Leinfelder**

## **Technology, Nature, and Culture in the Anthropocene: Learning from the Future**

Beginning in the nineteenth century, man became a major geological and geobiological factor on Earth. The use of fossilized energy (coal, oil, and gas) has not only fundamentally changed society, but has also altered the atmospheric composition, mean global temperature, sea level, as well as ocean chemistry. Changes in land use have been extreme: Pristine land now accounts for only 23% of the world's land surface. Urbanization, industrial farming, agriculture, transportation infrastructure, large scale mining activities, and water management dictate the degree of terrestrial sedimentation, erosion, and drainage patterns today. The loss of biodiversity is assumed to be between one hundred to one thousand times higher than normal. Man also modifies organisms by breeding and developing biotechnology at accelerating rates.

A new conception of the geological age "Anthropocene" was introduced by Nobel Laureate [Paul Crutzen in 2000](#) and [presently being further developed](#). This theory puts mankind in the "driver's seat" of many of the combined processes governing System Earth. As such, this new conception gives humanity the ultimate responsibility for defining how our future world should look like without crossing the planetary boundaries of Earth. Therefore, this concept is a good approach towards combining protective measures with mitigation and adaptation strategies to address global and regional change. The Anthropocene concept also implies that the use of the planet is based on intra- and intergenerational justness. The beauty of the approach is that one can learn both from the past (earth history, anthropology, human culture, societal history, etc.) and the future (predictive future global and regional change models for variable scenarios). This may create a new understanding of integrated, inter- and transdisciplinary research, and education, in which not only scientists and teachers, but stakeholders also participate and cooperate directly.

The project aims to develop the outlines of a science-based participation and exhibition concept to help promote and support a knowledge-driven transformation towards a sustainable Anthropocene society. The project has a four-step-approach:

- (1) Combining the necessity for a new "social contract for sustainability" ([WBGU 2011](#)) with the Anthropocenic view;
- (2) Summarizing common traits of acceptance barriers towards the development and use of scientific knowledge in the fields of climate, evolution, the environment, energy, food, and nano-sized and genetic technologies;
- (3) Analyzing existing and developing future conceptual examples of how civil society may be increasingly involved in the process of researching, implementing, monitoring, and securing the transition necessary to achieve global sustainability;
- (4) Sketching and discussing exemplary and tangible Anthropocene vision modules with strong participation aspects. Such modules should help us "experience" our future in the Anthropocene, and should provide further empiric scientific data on acceptance behavior, emergent empathy vs. aggression potentials, and self-readjustment abilities for a shared

Anthropocene responsibility. The tangible vision concept could include design modules such as:

- An interactive, investigative, “experienceable,” in- and outdoor exhibition;
- “Anthropocene Camp,” a set of computer-managed high-tech households with a sustainability food lab with measurement of material flows and ecological footprint of activities, with shared elements and “high-tech shared allotment gardens“ for productive recreational activities.
- Expansion and business models of the Camp idea, such as an „Anthropocene Holiday Park“, “Anthropocene creative industry and science parks“, or “Anthropocene student homes“
- Integration of Anthropocene tangible vision modules into international building exhibitions. The development and expansion of „common urban farming“, or “citizen science monitoring stations for the Anthropocene” will also be discussed.

In short, theoretical and practical possibilities of how to help implement and enlarge societal self-responsibility for designing the future Anthropocene will be discussed in this piece. The conceptual approach of learning from future prognostic scenarios must therefore be accompanied by legitimization and authentication measures. These include citizen participation in research, monitoring, and the development of the Anthropocene, as well as scientific authentication. The latter may be best provided by running “retrognostic tests” based on authentic natural, technical, cultural, and art history objects from relevant science collections.

The outcome of this project might hopefully also stimulate the realization of an “Exhibition for the Anthropocene” in cooperation with the RCC and other partners (not part of the current project).