

# Bridging Waters â[ ] Lessons Learned from an Art-Science@collaboration

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*Abstract: How do scientists and artists work together in transdisciplinary projects? In this article, we reflect on this question using the AnthroPoScenes project as an example. AnthroPoScenes is funded by the Berlin University Alliance as an experimental laboratory for science communication. It is a collaboration between the Integrative Research Institute on Transformations of Human-Environment Systems (IRI THESys) at Humboldt-Universität Berlin (HU), the Technical University of Berlin (TU) and the Free University Berlin (FU). The transdisciplinary project aims to open dialogs at the interface of art and science with participatory and creative formats. The focus is on water and climate in the Berlin-Brandenburg region with events hosted in Berlin and the Spreewald. In this article, we report on how the participating scientists and artists reflect on the collaboration, different working methods and knowledge transfer in the context of the experimental formats and present a series of suggestions for future projects at the intersection of art and science.*

## Background

Faced with the complex and interconnected challenges of anthropogenic climate change, academic disciplines must broaden from siloed ‘business as usual’ to include transdisciplinary approaches (see Phillipp & Schmohl 2023; Harris, Brown & Russell 2010; Worosz 2020). Only by incorporating and integrating perspectives and methods from different disciplines can holistic and sustainable approaches for social, economic and ecological problems be developed. As such, art-science collaborations are increasingly heralded for their crucial importance to cross boundaries and open spaces for knowledge exchange (Horstmann, 2021). Against this background, AnthroPoScenes was developed with the goal to open dialogues about water in the Berlin-Brandenburg region. It is funded as an experimental laboratory for science communication and explores approaches which shift away from traditional one-sided dialogues which compensate for public ‘knowledge deficits’; towards participatory and integrated transdisciplinary approaches (BUA, 2021). Anchoring these dialogues in scientific processes is crucial to ensure that participation does not take place in isolation, but as part of iterative and reflexive scientific research (Hoffmann et. al 2029). AnthroPoScenes is therefore embedded into the inter- and transdisciplinary research consortium Climate and Water Under Change (CliWaC). The consortium investigates the impacts of climate change on water in Berlin and Brandenburg. Over a period of three years (2021-2024), AnthroPoScenes invited scientists from CliWaC to cooperate and collaborate with artists from the Berlin-Brandenburg region to explore new art-science formats together with the different publics. This included so-called ‘walkshops’, accessible excursions along local rivers, which were accompanied by scientists such as hydrologists, as well as artists such as composers. ‘Walkshop’-formats were used during the project period for the public, as well as within the collaboration with the inclusion theatre RambaZamba, which developed a staged play about water entitled “the world flames like a disco ball (styx speaks)”. Another example of art-science formats was the exhibition ‘River Stories|Flussgeschichten’, which was the result of experimental collaboration in which artists had short residencies in the village of Raddusch in the Spreewald and produced multimodal works in collaboration with scientists and residents. The installations, performances and audio works were presented as part of

a two-day festival of arts and sciences directly at the small natural harbor in Raddusch. Afterwards, the works were loaded onto a traditional Spreewald barge together with written and drawn messages from festival visitors and transported over 100 kilometers downstream the Spree to be exhibited in the Art-Science Forum of Berlin Science Week.



'Walkshop' along the Spree with RambaZamba (2022). Photo: T. Frommen.

In contrast to the traditional deficit models of scientific communication, these sorts of experimental art-science formats are characterized by both greater openness, as well as an increase in ambiguities. Therefore, further analysis is needed to better understand the various tensions and potentials. AnthroScenes envisaged a qualitative evaluation in which semi-structured interviews were conducted with both groups, and a reflection on the collaboration. The results of these interviews are presented below.

### **Interviews and reflections of the participants**

Ten participants from the project were interviewed for the evaluation, including one natural scientist, six artists and three anthropologists. The quotes from the interviewees refer to four AnthroScenes events, including a 'walkshop' along the Spree, the staged play and the events in the Spreewald and in Berlin (see above).

In the context of this evaluation, two major thematic blocks were identified each with several sub-

themes. This included formats and organization on one hand and transdisciplinarity on the other., each with several sub-themes.

### **1. Formats and organization**

The first thematic block includes further subtopics such as the importance of local connections for building trust between project participants and residents, as well as target groups and advertisingâ€specifically on the influence of different contexts on advertising for potential visitors. To highlight the special interaction between science and art, two sub-themes proved particularly relevant. Firstly, the use and role of different expertise in each respective group, e.g. the explicit demand for expertise from the natural sciences. Secondly, the low-threshold nature of the formats was a relevant sub-theme as the level of informality and perceived hierarchies, or their absence mattered at individual events. A central example here were the 'walkshops', i.e. the excursions along the Spree in Berlin, which involved cooperations between a hydrologist, a science communicator, authors and artists. The format was strongly embedded in the local historical context, so that all participants, including the organizers, were able to situate themselves on site at short notice and thus engage in dialogue and make their own contributions. The hydrologist had positive memories of the event and describes the unusual change of roles:

"It is quite rare to be in this situation as a scientist [...] that other people were also there who had another knowledge and were able to contribute it. Then there was enough to learn for everyone involved, including me. And then you go home with the feeling that you've now learned something [...]"



Multimodal exhibition *River Stories* (2023). Photo: K. Czurda.

The composer of the play was also among the participants. This direct contact with the hydrologists greatly influenced his understanding of the project objectives:

“I really have to say that these two excursions, especially the first excursion when we were there on the Spree, made quite a lasting impression on me because I learned a lot of things that I wasn’t even aware of. So, I didn’t know that the Spree is important as a source of drinking water for Berlin.”

This leads to the conclusion that direct, personal and informal exchange between scientists and artists is particularly important for successful collaboration. A low-threshold format embedded in everyday life also makes it possible to break away from very different ways of working, which, as we will see later, can quickly lead to friction. However, these differences also meant that the scientists often had little time to participate in public events, which resulted in unmet expectations of expertise. This is problematic because visitors often asked questions that required expertise from the natural sciences, but these experts were not present. This meant that the artists and anthropologists present had to answer the questions. This transgression of their own expertise made them uncomfortable. This indicates s that even when artistic media fulfill a scientific communicative function, the presence of scientific experts is warranted.

## 2. Transdisciplinarity

Within this thematic block, further sub-themes were identified such as the learning effects and

knowledge transfer between scientists and artists; differences and ways of working; hierarchical relationships and epistemological differences between the social sciences, natural sciences and arts, as well as the influence of factors such as timing, objectives and financial constraints on collaboration.

All interviewees found the transdisciplinary nature of the project enriching, especially in connection with the innovative formats. One set designer praised the open communication about obstacles and problems, which was remarkable in a transdisciplinary project of this scale. Criticism was voiced more about structural differences in working methods and limited time and financial resources. Although both the artists and the scientists were reliant on project-based work, which provided little time and financial freedom, the artists' working methods were more spontaneous than those of the scientists. As a result, the anthropologists spoke of different expectations and ideas towards scientific work which in their view had led to an unbalanced relationship. One of the anthropologists described this as follows:

"I found the collaboration with the artists very one-sided. I had the very strong feeling that artists think that science puts something in, and they make something out of it and not that this happens in dialog, i.e. in collaboration. And that social scientists are not seen as the scientists who are supposed to talk about water, so they [artists] were often asked about hydrologists and facts. I would have liked that [...], that there was a different openness."



'The world flames like a disco ball' production of the RambaZamba Theater (2022). Photo: A. Weinland.

One anthropologist also emphasized the importance of long-term funding for the availability and willingness of everyone to work together in the long term:

”And that’s why you would have to think about how you can have a group in which people can commit to taking part, and that also means getting something out of it in a way for their own subject and for their own discipline and not always just having it as an add on to the actual work.”

The artists also faced challenges which stem from similar differences. For example, artists felt they were often given too little time, especially in the production phase, because the other project members somewhat underestimated the time required and the importance of a clear allocation of roles in the process. The artistic director of events River Stories|Flussgeschichten describes this as follows:

”I see the reason why it happened this way in very different production processes, in different working conditions and in the fact that there has always been a considerable lack of time on the part of the scientists\*. [...] They [organizers and scientists] were relatively quick in their preparations and relatively spontaneous in the implementation of the respective artistic process. And on the academic side, I often had the impression that they simply asked for some projects or processes at too short notice and that the academics were already too fully booked.”

This is particularly problematic as artists often have a particularly precarious employment status, which severely limits their flexibility and ability to compensate for organizational deficits. For example, one anthropologist reported in an interview that some artists worked by the hour, which led to a patchwork of working days in which the project members were not always able to achieve what they had hoped for. In this respect, the composer stated in his interview that it would be interesting to involve the scientists already in the process of writing a piece and rehearsing it. In this regard, he suggested that experts from fields such as biology or chemistry could provide unexpected feedback, even if they are more ‘removed’ from artistic activities than social scientists.

Perhaps the biggest problem is the hierarchical understanding of roles between the arts, natural sciences and social sciences. Throughout this project, the anthropologists often became de facto mediators between the other two groups, both in terms of organizational and substantive differences. This underestimated the role of social scientists as scientists and further cemented the role of natural scientists to ‘explain the world’. Together with the challenges of different working methods and the lack of availability of natural scientists, this led to deficits. Future projects cannot individually abolish or fundamentally reform these strongly established roles. However, they can ensure that all participants, whether natural and social scientists or artists, are involved and remunerated appropriately, fairly and transparently to guarantee long-term and balanced participation that is not in addition to their other activities.

## Conclusion

The analysis contributed to the still very rare qualitative evaluations in the field of science

communication. It showed that several various difficulties can arise in projects at the interface between art and science. These are both more organizational hurdles, which arise due to the different working methods of scientists and artists, as well as larger structural problems, such as the hierarchical relationships between the various disciplines. One problem that consistently arises is the lack of time and financial resources or the need to adapt the available resources to the needs that arise during the project.

However, given the potential that lies in the collaboration between art and science regarding the diverse challenges of climate change, it is crucial to ensure future projects consider the practical applicability for artists, researchers, science communicators and all other actors in this field. A short list of questions was therefore developed from the analysis of the subject areas, which may be helpful for future projects:

1. Are the time capacities clear and sufficient? Can the participants devote longer periods of time to the project?
2. What formats are planned? Are the participants familiar with the specificities of the format? If not, is it possible to schedule more time to introduce the participants to the formats?
3. Is it possible to involve and collaborate with scientists and artists in the respective events/formats at an early stage? Is there enough time for the project participants to develop a compatible way of working?
4. Is there a clear allocation of roles? Are the responsibilities for organizational aspects and advertising allocated sensibly?
5. Is an evaluation of the project or the formats planned? If so, can it take place during the project?

Cover image: *Raddusch ohne Wasser?* (2023). Foto: K. Czurda.

## Literature

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### Tags

1. cooperation
2. cooperation between artists and scientists
3. Olena Slobodian
4. Pauline MÃ¼nch