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How social sciences and humanities can contribute to transformative science

Social sciences and humanities play important roles in sustainability-oriented transformative research. A saguf workshop revealed what these roles can look like.

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Social sciences and humanities (SSH) can and should play an important role in understanding and tackling issues related to sustainable development – this idea is not new to GAIA's readership. Since its foundation, the journal has been a platform for integrative approaches such as interdisciplinarity, transdisciplinarity or transformative sciences (Bornemann et al. 2017). The need for integrating SSH to address sustainability challenges is now largely acknowledged by international organizations addressing such challenges as well as by funding institutions (Castree et al. 2014). The potential contributions of SSH to sustainable development are recognized in initiatives such as *Future Earth*, in the special report *Global Warming of 1.5°C* recently

published by the Intergovernmental Panel on Climate Change (IPCC) (Masson-Delmotte et al. 2018), or in the United Nation's (UN) *2030 Agenda for Sustainable Development* (UN 2015).

Despite this overall consensus, there is no agreement on how exactly SSH should be integrated into transformative science. Practitioners from policy making, industry or nongovernmental organizations (NGOs), as well as natural scientists or engineers, often expect SSH researchers to contribute to the transformation towards sustainability by conducting research that supports the acceptance of technological solutions or the implementation of already defined policies. Such tasks often do not correspond to the research interest or self-understanding of scholars from these disciplines. Accordingly, SSH researchers are frequently underrepresented in public debates and scientific advisory boards on sustainability issues. However, this underrepresentation might also reflect an unease of SSH researchers to embrace transformative science, inasmuch as they see little opportunity to contribute on their own terms (Castree et al. 2014).

Drawing from discussions at a *saguf* workshop, we identify five potential contributions of SSH researchers to transformative science. Subsequently, we focus on two cross-cutting issues that are challenging to a deeper involvement of SSH researchers in transformative science: normativity and critique.

The workshop *Transformative SSH – Opportunities and limits in Switzerland*

The workshop *Transformative SSH – Opportunities and limitations in Switzerland* organized by *saguf* took place on November 16, 2018 in Bern. It was part of a series convened by the Swiss Academy of Humanities and Social Sciences (SAHS) on *Sustainable Development Goals (SDGs): the contribution of the social sciences and humanities*. The workshop aimed at advancing the discussion on approaches, challenges and implications of transformative science for SSH in Switzerland. Furthermore, it aimed at exploring the opportunities and limits of transformative SSH regarding implementation of the *2030 Agenda*.

These issues were addressed by three guest speakers: *Christoph Kueffer*, *Urs Wiesmann*, and *Kerstin Krellenberg*. Based on their respective involvements in transformative science projects, they reflected on the contributions made and the challenges encountered by SSH researchers. The following plenary discussion raised various questions of concern to the participants. These questions included practical means means for SSH researchers to communicate their views; the ethical implications of being involved in research explicitly aimed at transforming society; and the institutional means needed to support a stronger involvement of SSH researchers in transformative science.

The participation of 40 researchers, the intensity, quality, and breadth of discus-

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sions on the workshop topic contributed to the success of the event. However, most of the workshop participants were already engaged in research on sustainability issues in inter- and transdisciplinary settings. Although it was organized under the auspices of the SAHS, the event attracted only few scholars working in more disciplinary settings and thus illustrated the difficulty to attract SSH representatives to transformative research.

sized the importance of these elements in order to uncover existing injustices and power imbalances, to reflect ethical questions or to warn of undesired developments that might arise from current situations. However, it was also stressed that critique alone rarely leads to the desired changes and may even be disempowering if it conveys a sense of hopelessness. States and discourses of power must not only be unveiled or deconstructed but overcome by

tory; target knowledge requires negotiating various worldviews; transformation knowledge generates the ability to deal with major changes and maintain social coexistence.

Spaces for creative and reflective interaction: Workshop participants emphasized that transformation should not be regarded as a purely knowledge-based process, but that it is also about emotions and concrete experiences. To connect these strands in in-

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Five potential contributions of SSH to transformative science

Building on the workshop discussions, we identify five types of contributions of SSH to transformative research. Highlighting such possible contributions might make participation in transformative science more attractive to SSH researchers.

Evidence and contingency: Generating evidence on socio-cultural and economic aspects of (un)sustainable development is important to inform any transformative endeavor towards sustainability. This evidence is often expected to be quantified, either as statistical data or in computer models. However, SSH research can provide different types of evidence, such as in-depth case studies that inform about contextual conditions; or narratives that offer a deep understanding of existing representations of an issue (Kueffer et al. 2017). During the workshop, a historian stressed that historical analysis does not simply describe and explain how past transformations took place. It can also emphasize the contingency of certain transformation paths and reveal spaces of possibility as to how things could have gone differently.

Deconstruction and emancipation: Critique, reflection, and anticipation are further central elements of SSH. Participants empha-

seeking and developing new practices. SSH need to make constructive and emancipatory contributions that convey orientations for social action.

Designing and reflecting transdisciplinary processes: SSH scholars can contribute to designing, analyzing, and reflecting transdisciplinary processes necessary to transformative science. Organizing and conducting transdisciplinary processes is not a prerogative of SSH. However, SSH can make key contributions to understanding the dynamics that lead to the emergence of sustainability problems (system knowledge), to clarify and negotiate values and goals of a more sustainable situation (target knowledge), and to generate knowledge relevant to action enabling change (transformation knowledge).

Building capabilities: Societal transformation does not only require knowledge about processes, but also the ability to act in a way that desired results can be achieved. Especially representatives of the environmental humanities emphasized that contributions of SSH scholars in transformative research projects do not only generate knowledge but also promote capabilities (Kueffer et al. 2017): system knowledge is about enabling people to think critically and reflect on interrelationships, but also on his-

novative ways, some participants pointed to the need for new approaches, such as real-world laboratories or living labs, where scientists work with social actors on new ideas and concrete change. This also includes art projects or collaborations between artists and scientists as promising ways of imagining and enabling transformation pathways (Heinrichs 2018).

Tackling normativity: From a critique that debunks to one that assembles

Transformative science is normative. It is committed to sustainability, and this commitment implies a certain understanding of how science should be practiced (Schneider et al. 2019). At a basic level, this normative dimension supposes an ability to define a situation as undesirable (unsustainable) and propose ways of developing towards a more desirable (sustainable) state. This ability to distinguish desirable from undesirable situations refers to a further feature of SSH: being critical.

In SSH, critique is often associated with strands of critical theory aimed at revealing the reality behind actual social practices (Latour 2005, Boltanski 2011). This concern equips critical SSH scholars with a position of authority: they are the ones able to grasp the structures that determine social life, to debunk the myths which actors hold true, to deconstruct social reality. All this gives

the critical scholar a privileged moral position: by making visible the invisible chains binding the actors, they act for the emancipation of these actors. Critique that can make a productive contribution to transformative science, however, differs from this classical understanding of critical theory in that it does not simply “debunk” (Kläy et al. 2015).

In this sense, transformative science implies that critique alone cannot make the world more sustainable. Further work needs to be done to achieve transformation, such as empowering actors in order to actually change undesirable situations identified as such by critical theorists. Moreover, transformative science involves working with other scientific disciplines as well as societal actors to define and tackle problems. This implies that the critical academics let go of the privileged position in which they all by themselves can see the problems others don't see.

This poses an important challenge to the endeavor of involving SSH scholars in transformative science. Those who identify as critical researchers traditionally conduct research on issues of justice, equality or emancipation that are crucial to implementing the *SDGs*. Yet these researchers might also be more reluctant to engage in transformative research projects if they perceive that their role is to support predefined solutions. How then to involve them? One way would be for transformative science to learn from current debates within SSH that are seeking to renew the meaning of critique in order to address contemporary societal challenges.

The sociology of critique developed, for example, by Luc Boltanski (2011) offers tools and concepts from within the SSH to think about the potential involvement of critical SSH researchers in transformative science. It highlights that being critical is not a prerogative of critical theorists and that, in many societies, other actors also make use of critique. In this view, critical SSH researchers should participate in transformative research because critique is a shared capacity that will anyway be activated by different kinds of actors. Critical SSH researchers can bring in concepts and methods to grasp what makes a situation unde-

sirable and to relate these findings to implicit normative positions. Seeing how critical theorists “deconstruct” reality can also contribute to establish better critical skills among all actors. But this will only work out if critical SSH researchers recognize that they are not the only ones authorized to critique.

Bruno Latour (2005) also tackles the question of critique from within SSH. He highlights the limits of critique as a transformative force by itself: unveiling and debunking do not necessarily translate into individual or collective action. According to Latour, we need research that brings together social actors to compose a common world.

Just like Boltanski (2011), Latour considers that non-researchers have critical capacities that they use in controversies. The role of SSH researchers is to map out the sources of these controversies and the resources used by the actors to advance their perspectives. By mapping these connections, SSH researchers contribute to assembling the social reality they write about. Latour is very explicit that all disciplines of SSH can contribute to such a composition through the concepts and the empirical knowledge they propose.

A critique that reassembles can strengthen transformative science

A critique that reassembles contributes to the five areas identified above and can thus strengthen the transformative sciences. Because it offers detailed accounts that map out social relationships, a reassembling critique provides valuable evidence on social reality. It also offers ways to formulate critique that goes beyond deconstruction and point to emancipation in a collective way. Furthermore, it proposes a form of critique that is well suited for transdisciplinary processes, since it assumes engagement with perspectives carried by other actors. Such engagement is valuable for non-SSH researchers, as they might learn new skills of critique. Finally, a critique that reassembles might need to employ methods beyond written text; in order to show all connections that make the social visible and thus can bridge with the arts (see Latour and Weibel 2005).

Although we assume that not all SSH researchers will adhere to such a view of critique, we hope that the five contributions sketched here will be taken as a call for more SSH researchers to engage into transformative research.

References

- Boltanski, L. 2011. *On critique: a sociology of emancipation*. Cambridge, UK: Polity.
- Bornemann, B., A. Bernasconi, O. Ejderyan, F. Schmid, P. Wäger, C. Zingerli. 2017. Research on natural resources: the quest for integration revisited. *GAIA* 26/1: 16–21. DOI: 10.14512/gaia.26.1.6.
- Castree, N. et al. 2014. Changing the intellectual climate. *Nature Climate Change* 4/9: 763–768.
- Heinrichs, H. 2018. Sustainability science with Ozzy Osbourne, Julia Roberts and Ai Weiwei. The potential of arts-based research for sustainable development. *GAIA* 27/1: 132–137. DOI: 10.14512/gaia.27.1.8.
- Kläy, A., A. B. Zimmermann, F. Schneider. 2015. Rethinking science for sustainable development: Reflexive interaction for a paradigm transformation. *Futures* 65: 72–85.
- Kueffer, C., K. T. Lässer, M. Hall. 2017. *Applying the environmental humanities: ten steps for action and implementation*. Bern: Swiss Academy of Humanities and Social Sciences (SAHS).
- Latour, B. 2005. *Reassembling the social. An introduction to actor-network-theory*. Oxford, UK: Oxford University Press.
- Latour, B., P. Weibel (Eds.). 2005. *Making things public: Atmospheres of democracy*. Karlsruhe, Cambridge, MA: ZKM/MIT Press.
- Masson-Delmotte, V. et al. (Eds.). 2018. *Global warming of 1.5°C. An IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*. Geneva: World Meteorological Organization.
- Schneider, F., A. Kläy, A. B. Zimmermann, T. Buser, M. Ingalls, P. Messerli. 2019. How can science support the 2030 Agenda for Sustainable Development? Four tasks to tackle the normative dimension of sustainability. *Sustainability Science*. <http://link.springer.com/10.1007/s11625-019-00675-y> (accessed April 23, 2019).
- UN (United Nations). 2015. *Transforming our world: The 2030 Agenda for sustainable development*. <https://undocs.org/A/RES/70/1> (accessed April 23, 2019).