Actor Roles in Transdisciplinary Research

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Transdisciplinarity

- **Answers to complex „real-world problems":** plurality of actors, sectors, values and knowledge claims, decisions are needed
- **Integration of perspectives:** Diverse academic disciplines and extra-academic practitioners are integrated into knowledge production
- **Knowledge transfer:** Knowledge should be usable for practice partners and society at large

Climate services: benefits of stakeholder integration

- Outputs of climate research are tailored to the needs of practice partners
- Expanding the possibilities for societal actors to take climate action
- Practice partners get valuable insights into the domain of climate science
- Public trust in climate science can be advanced
- Advancing theory und methods within scientific disciplines
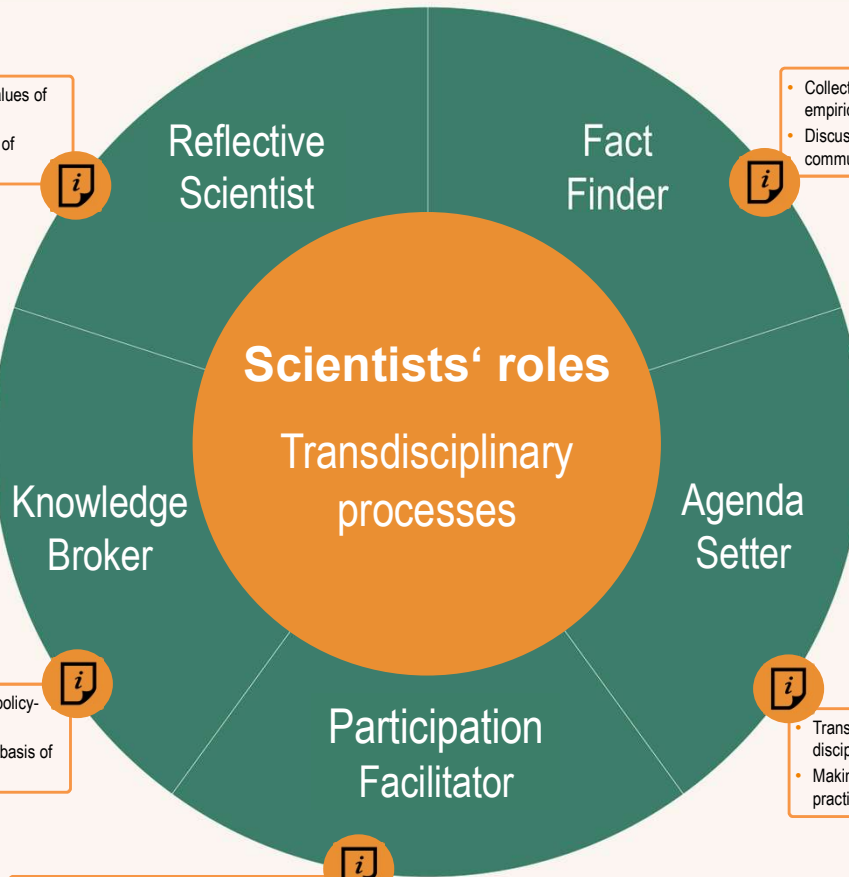
What are actor roles?

- Actor roles intermediate between individuals and society, they open up but also restrict possibilities for social action
- Actor roles are associated with a specific set of rules, norms, values and activities
- Transdisciplinary climate researchers perform different actor roles in different situations

Literature review

- To assess the current state of research on roles in transdisciplinary research
- Key words: *transdisciplinarity, co-production, participation, roles of scientists, actor roles*
- Selection of 24 (out of 285) papers from the 'Web of Science' (https://www.hicss-hamburg.de/roles)
- The term *role* is partly used in the meaning of *activities/tasks*, partly in the meaning of *attitudes*
- Distillation of five roles of scientists as most crucial for the co-creation of climate services

Reflective Scientist
- Reflecting the rules, norms and values of doing science
- Developing theories and methods of transdisciplinary research

e.g. Hilger et al. 2018; Horlings et al. 2019

Fact Finder
- Collecting, analyzing and interpreting empirical data
- Discussing new facts within the scientific community

e.g. Hegger et al. 2012; Crouzat et al. 2018

Scientists' roles
Transdisciplinary processes

Knowledge Broker
- Communicating science in media, policy-making and other societal contexts
- Intervening in public debate on the basis of the latest scientific results

e.g. Grunwald 2018; Oliver et al. 2019

Agenda Setter
- Translating knowledge between scientific disciplines, professions, stakeholders
- Making implicit knowledge from different practice domains visible

e.g. Hauck et al. 2014; Roux et al. 2017

Participation Facilitator
- Selecting appropriate extra-scientific stakeholders
- Stakeholder analysis and setting up criteria for participation

e.g. Pohl et al. 2010; Turnhout et al. 2013

Role taking and role making
Negotiating scientists' roles in transdisciplinary processes

By referring to the social science role theory, the challenges that arise for scientists working at the interface between science and society can be better understood. Role theory also offers suitable concepts for examining the attitudes of scientists.

- In functionalist role theory, actor roles are conceptualized as social expectations: "Social roles are bundles of expectations that are linked to the behavior of those who hold positions in a given society" (Dahrendorf 1958: 144, own translation). From this perspective, social roles fulfill certain functions within society and contribute to the stability of social order. These expectations are guidelines, rules and institutions that scientists use to perform their tasks and responsibilities. Scientists perform *role taking* in their attempt to fulfill these expectations. In this sense, the attitudes of scientists can be understood as an internalization of social norms. These norms are learned and internalized by the role bearers in the course of socialization processes. They are a resource for role-appropriate behavior.

- Scholars of interpretative role theory have pointed out that role expectations and the social norms associated with them are not simply accepted by actors without questioning. The attitudes of scientists and societal expectations do not necessarily have to match. Instead of *role taking* as emphasized in functionalist role theories, interpretative approaches have placed *role making* at the center (Wilson 1970). The aim of these approaches is to show how actor roles are changed and negotiated in situations of action. In this sense, scientists always take different roles in different contexts.

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