



FIRST GLOBAL CONFERENCE ON
RESEARCH INTEGRATION
AND IMPLEMENTATION



LEUPHANA
UNIVERSITÄT LÜNEBURG

Institute for
Social-Ecological
Research



Mixing and Coupling Methods in Transdisciplinary Research and Research-Based Learning

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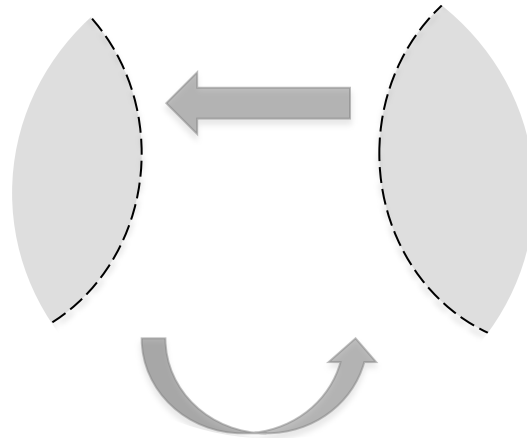


Overview

- General characteristic of transdisciplinary research settings
- How to foster traceability in highly unpredictable research processes
- Re-thinking our concept of methods
- Definition of transdisciplinarity
- Dimensions of integration
- A model for a transdisciplinary research process
- A collection of integration methods



Transdisciplinary Research Space



,in vivo' → ,in vitro' research
(Nicolescu 2008)



Definitions

Transdisciplinarity is a reflexive research approach that addresses societal problems by means of interdisciplinary collaboration as well as the collaboration between researchers and extra-scientific actors; its aim is to enable mutual learning processes between science and society; **integration is the main cognitive challenge of the research process.**

(Jahn/Bergmann/Keil 2012)



Definitions

Transdisciplinarity is **an integrative process** whereby scholars and practitioners representing different disciplines and epistemologies, work jointly to develop and use **novel conceptual and methodological approaches, that synthesize and extend discipline-specific theories, methods, and translational strategies**, to yield innovative solutions to particular scientific and societal problems.

(Stokols/Hall/Vogel 2013)



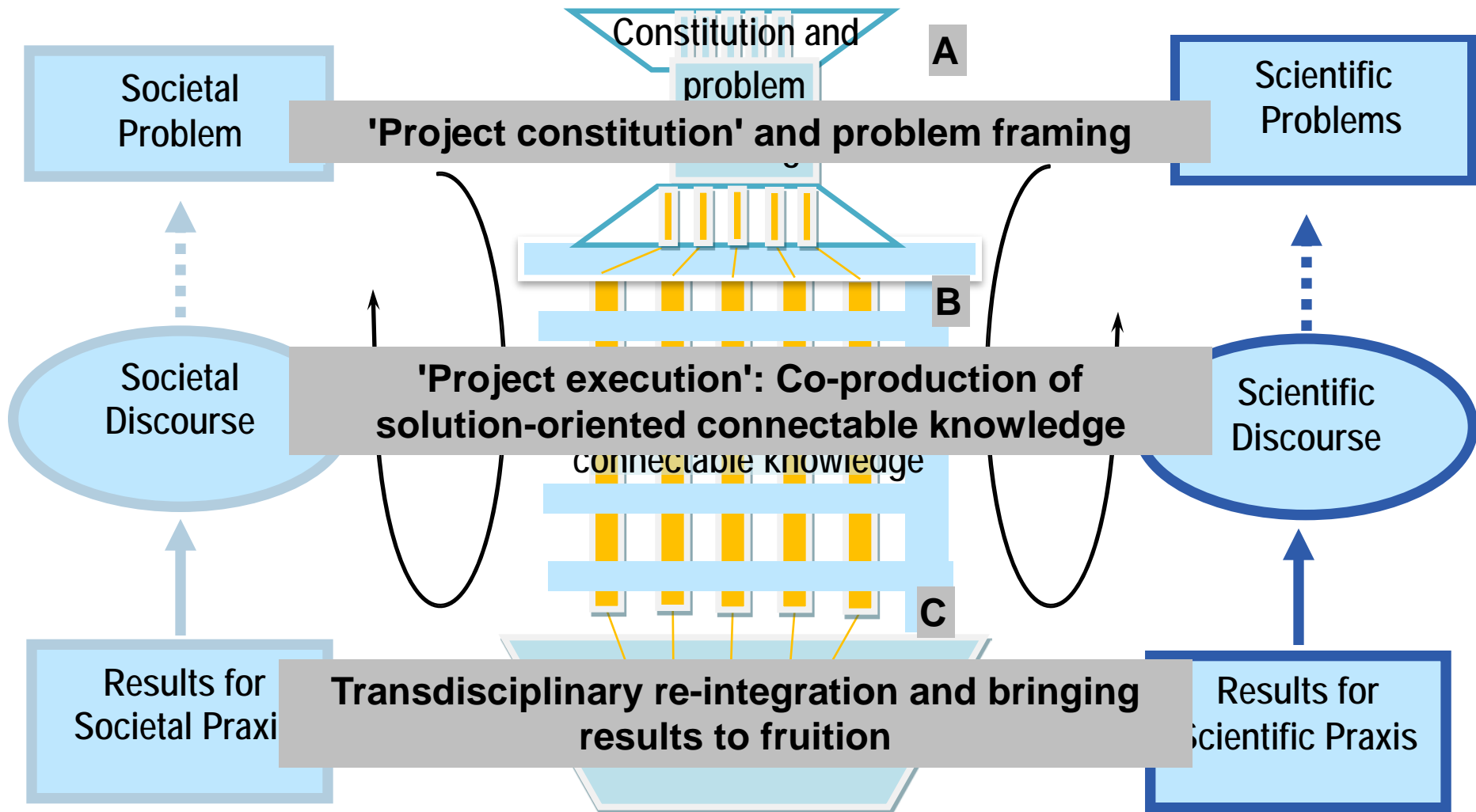
The aim: Tasks of Integration in Transdisciplinary Research

- **Cognitive-epistemic dimension:** distinction between and linkage of expert/disciplinary knowledge bases, as well of scientific and practical real-world knowledge;
- **Social and organizational dimension:** distinction between and correlation of the participating researchers'/experts' different interests and activities;
- **Communicative dimension:** distinction between and linking of different linguistic expressions and communicative practices, with the aim of developing something like a common discursive practice

(Bergmann et al. 2012: 45)

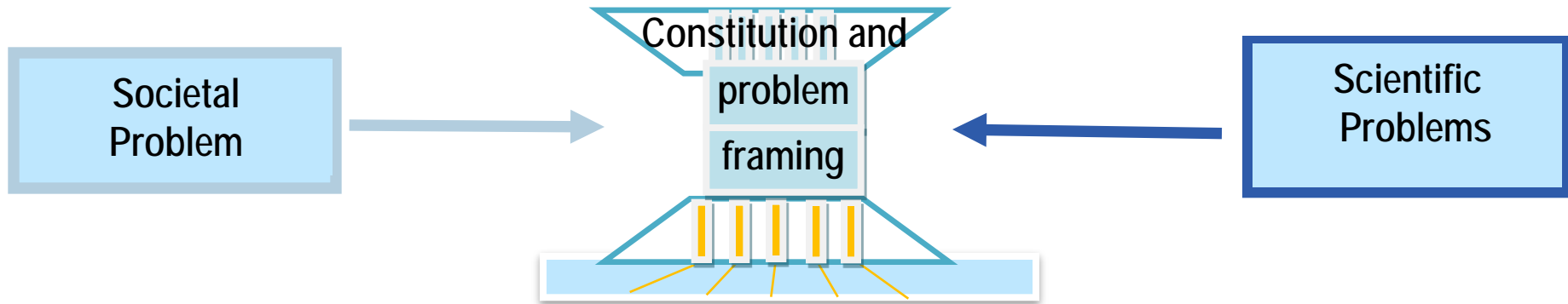


A model : The reflexive transdisciplinary research process



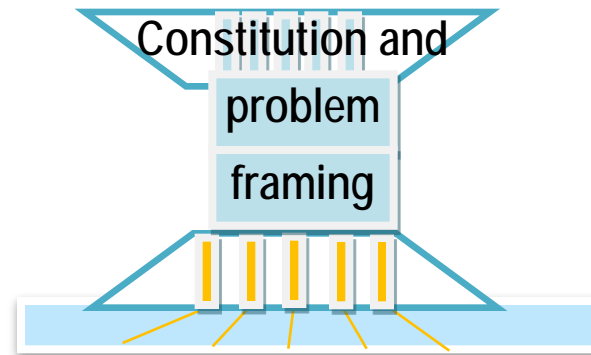


A model : The reflexive transdisciplinary research process



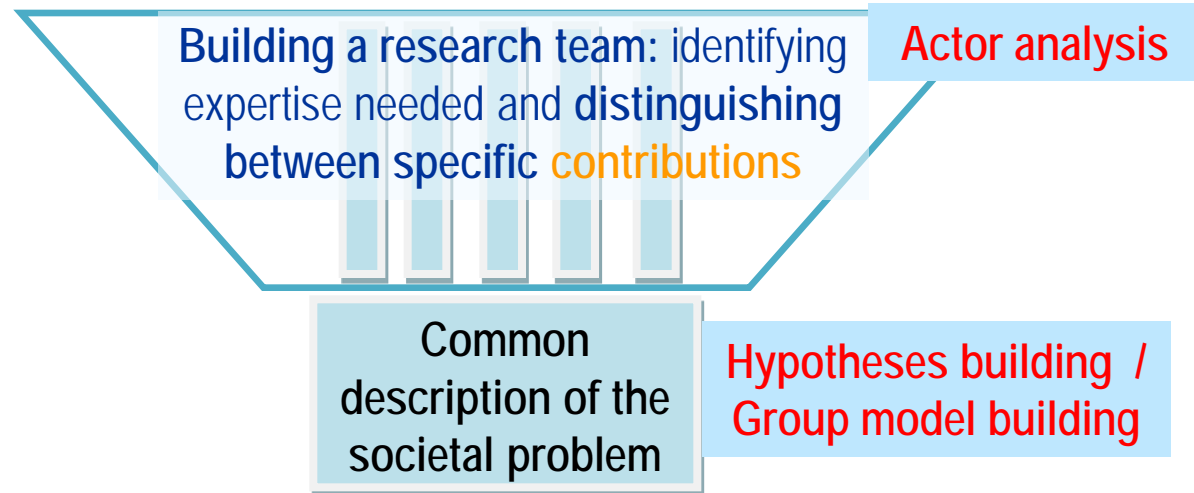


A model: Project constitution and problem framing





A model: Project constitution and problem framing





Examples for Decontextualised Methods

Integration through formulation of hypotheses

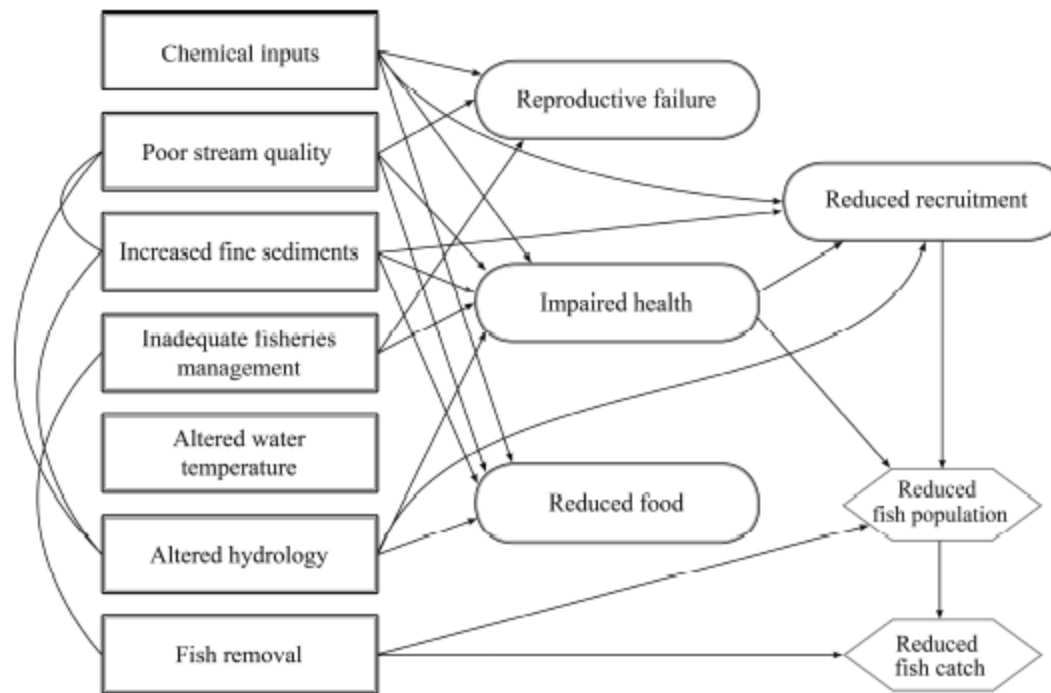
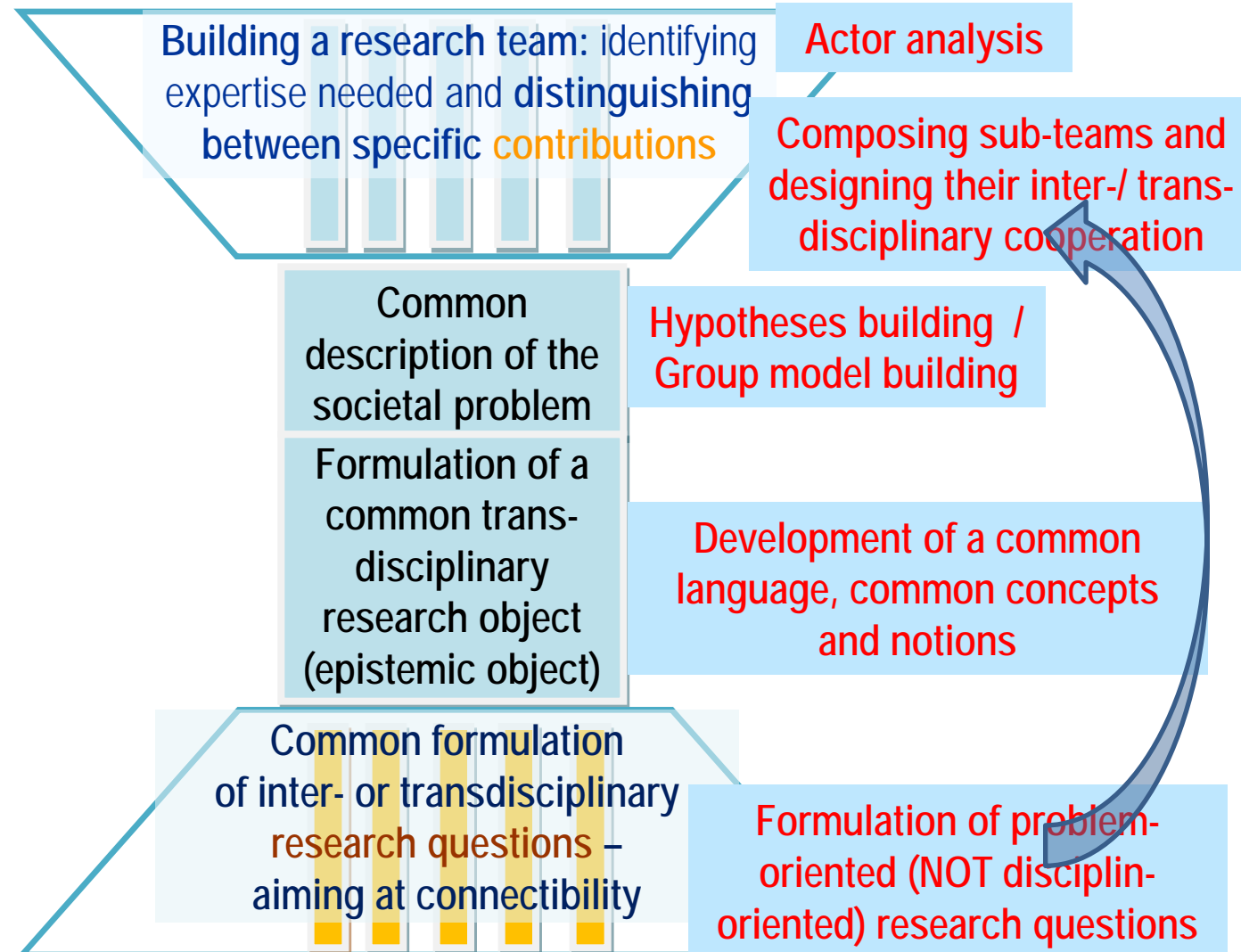


Fig. 11: Simplified individual-based brown trout model. The model brings together the causes mentioned in the hypotheses, with their mutual dependencies, and shows how they directly or indirectly affect fish stocks and fish catches. Source: Burkhardt-Holm (2008): 131 (adapted by the author; with kind permission from Springer Science+Business Media B.V.)

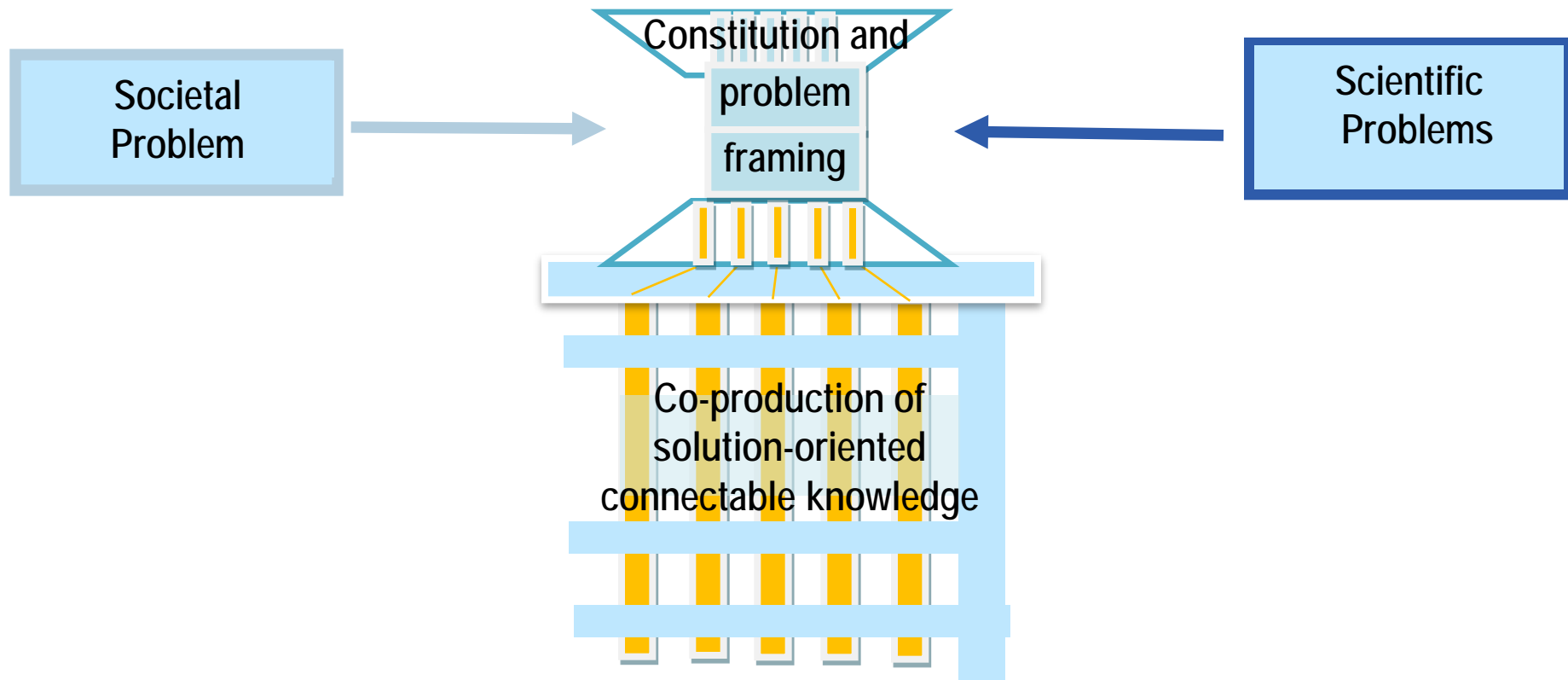


A model: Project constitution and problem framing



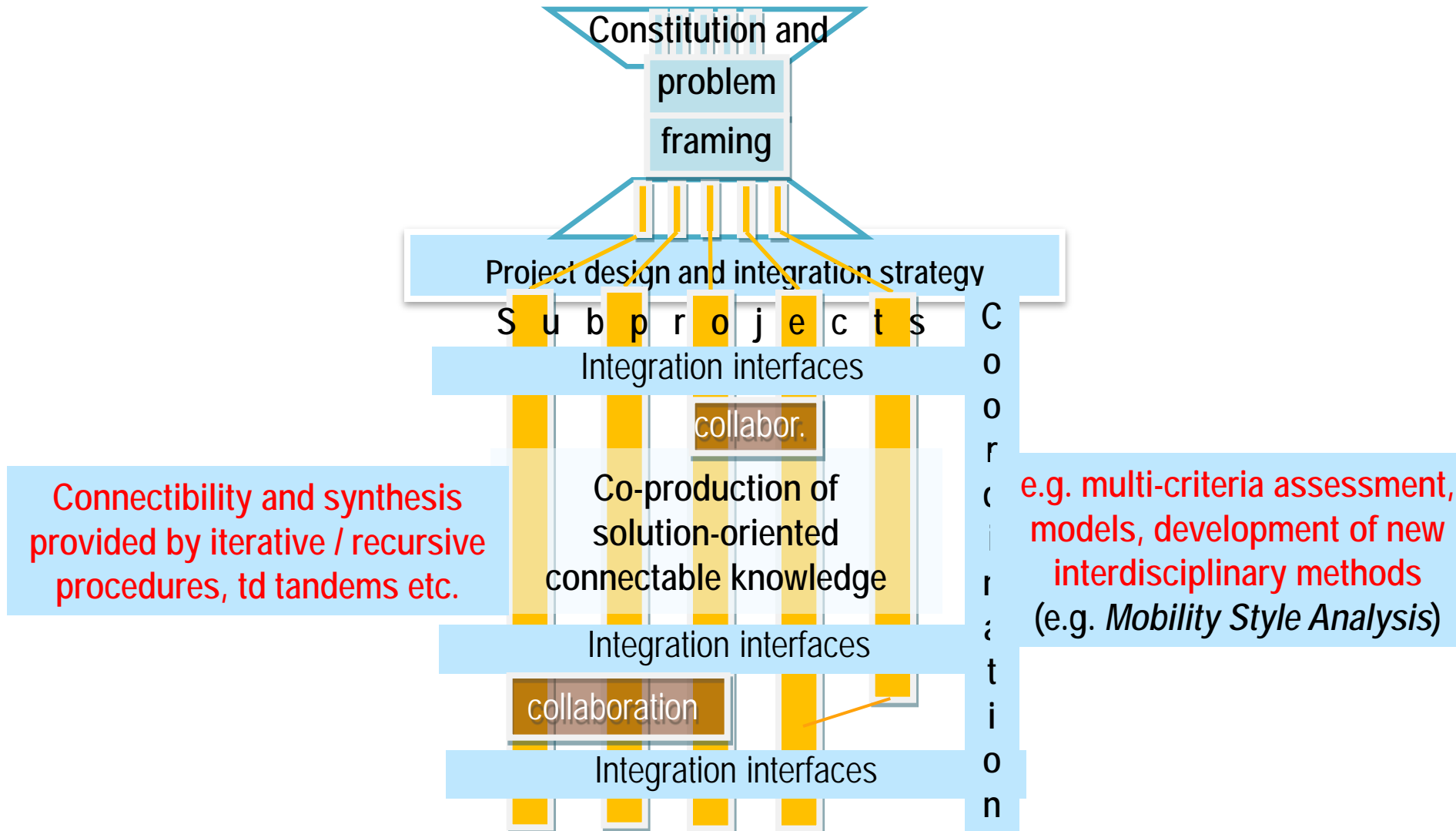


A model: Co-production of knowledge



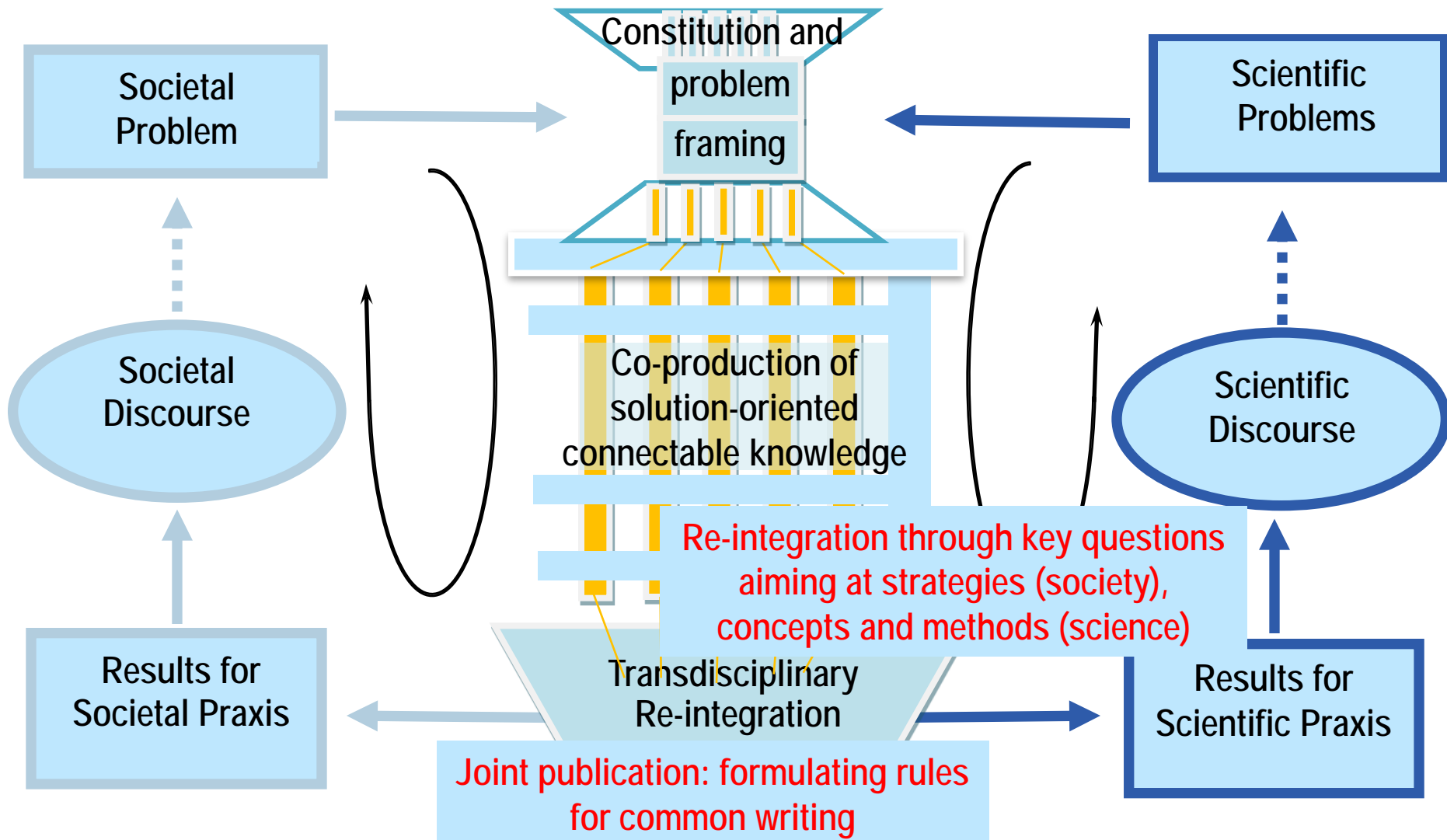


A model: Co-production of knowledge





A model : The reflexive transdisciplinary research process





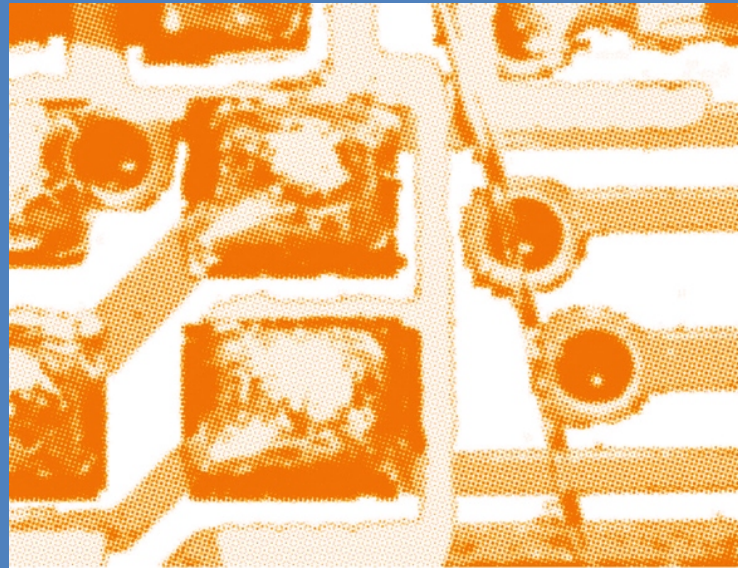
A collection of methods

"Methods for Transdisciplinary Research"

■ Integration methods **decontextualised – the methods and their analytical function in an epistemic order**

Integration through:

- a. Conceptual Clarification and Theoretical Framing
- b. Research Questions and Hypotheses
- c. Using and Developing of Integrative Scholarly Methods
- d. Integrative Assessment Methods
- e. Development and Application of Models
- f. Artefacts, Products and Concepts as *Boundary Objects*
- g. Procedures and Instruments of Research Organisation



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Christian Pohl, Engelbert Schramm

METHODS FOR TRANSDISCIPLINARY RESEARCH

A Primer for Practice

campus



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