

# METHODS OF TRANSDISCIPLINARY RESEARCH

Joined problem framing  
& mutual learning

→ Henrik von Wehrden

# TRANSDISCIPLINARITY SCIENCE AND SOCIETY - TOGETHER

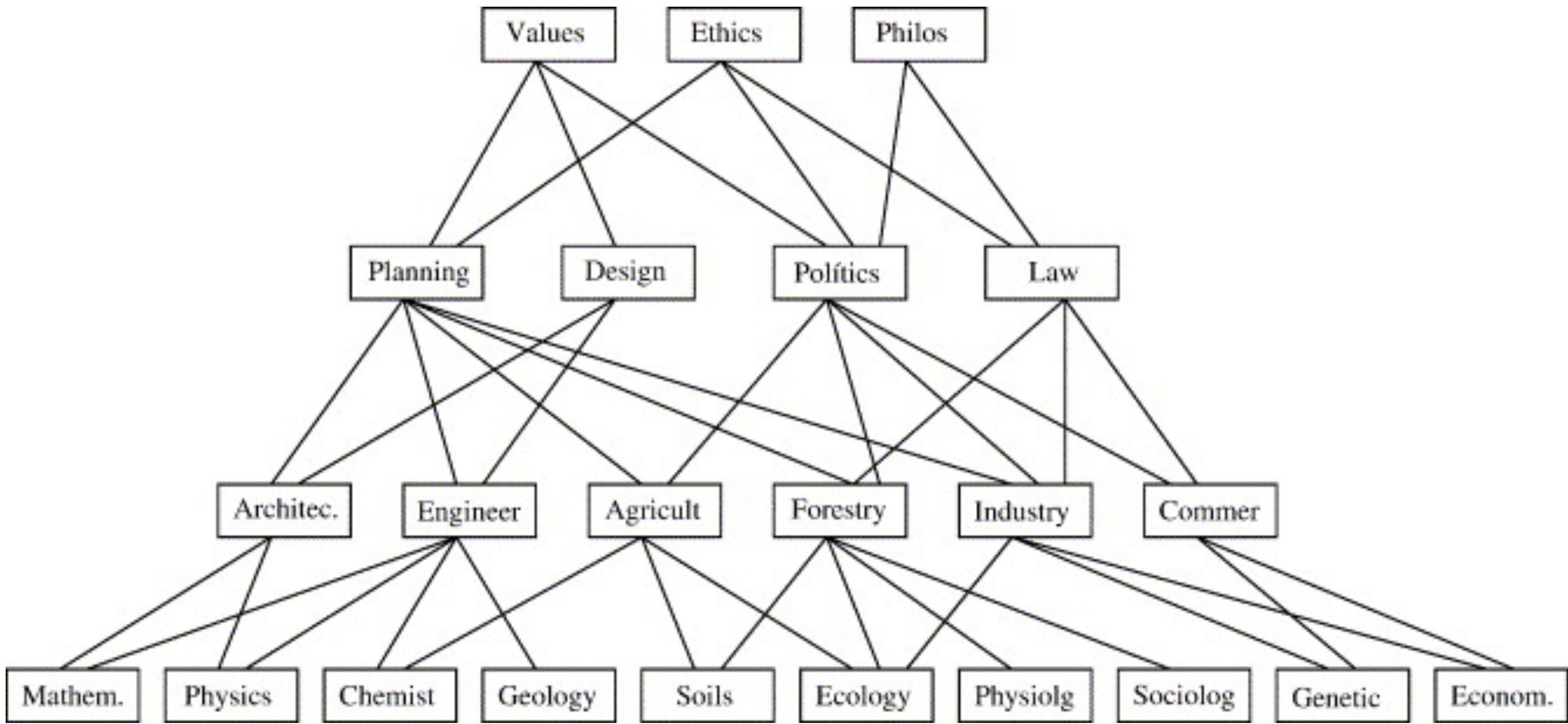
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→ Henrik von Wehrden

# TRANSDISCIPLINARITY - A VERY SHORT HISTORY

- Scientific disciplines emerged over the centuries
- Critical perspectives and stronger urge to engage with society in the 20th century
- New contract with society (mode 2)
- Stronger collaboration between diverse disciplines
- New methods on interaction between science and society
- New mode of conducting science together with and as part of society

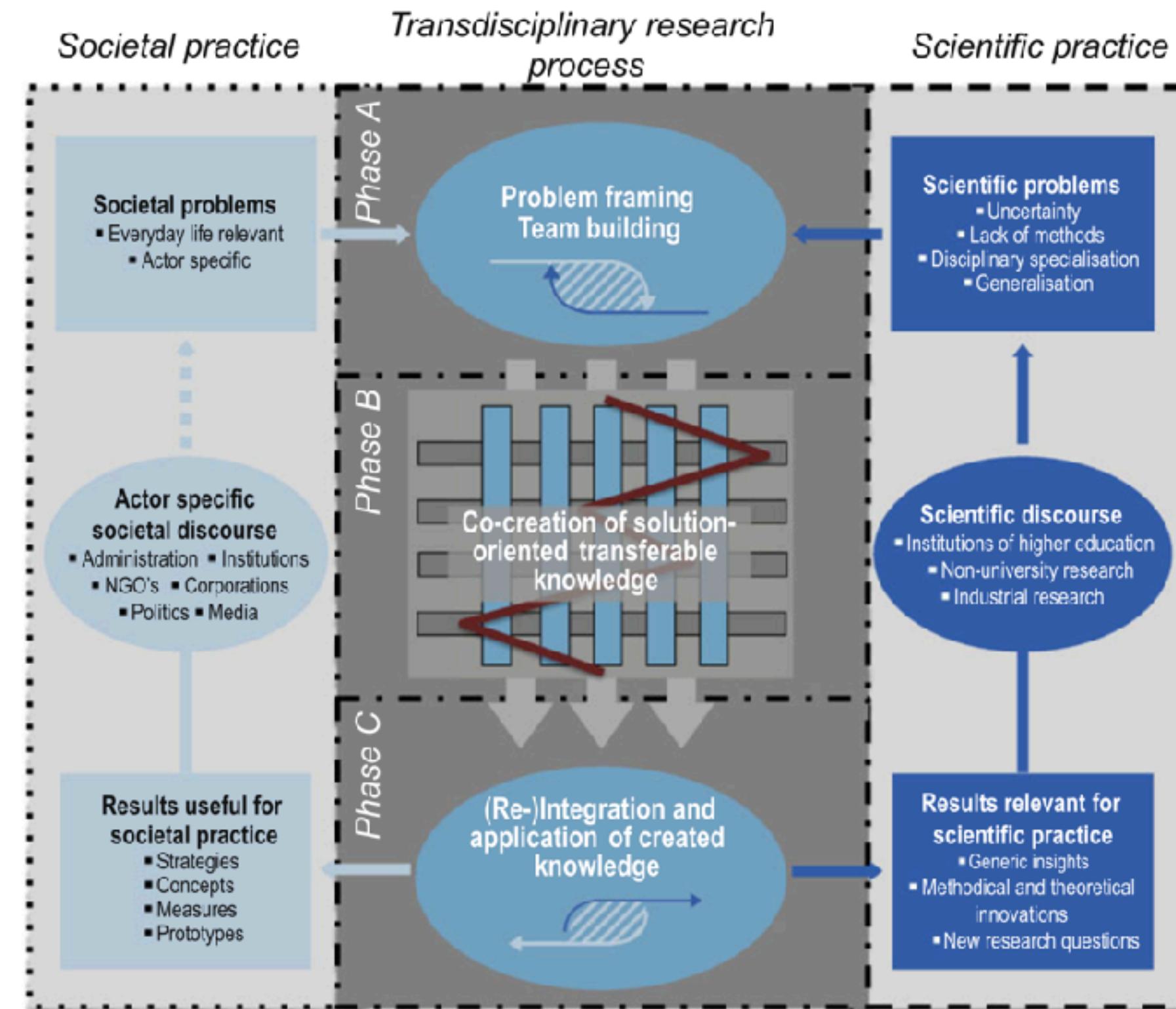




Kinds of knowledge	Description
<b>Knowledge informing intentional design</b>	Generative Knowledge that draws upon and engages with multiple perspectives for the creation of new and alternative social–ecological, institutional and cultural relationships and arrangements (for example, new social norms or new ways of managing resources).
	Prescriptive Knowledge that informs recommendations about more desirable options to realize intentions (for example, policy recommendations about adaptation options to enhance the integrity of a social–ecological system) and that guides and inspires actors in creating change (for example, narratives of change about how to foster non-discriminatory behaviours and social norms).
	Strategic Knowledge that defines priorities of actions for the realization of intentions and that relies, among others, on: an understanding of fits and misfits between intentions and context (for example, between desired outcomes and available resources), the anticipation of possible consequences of actions (including unintended ones) and the capacity to adapt to changing circumstances (for example, due to unexpected political turns).
	Critical Knowledge that questions existing institutions (for example, colonial institutions), interrogates prevailing power asymmetries (for example, between the rich and the poor), contests conventional assumptions and values (for example, patriarchy) and enables marginalized views, needs and interests (for example, of indigenous peoples).
	Empowering Knowledge that enables agency (individual and collective), builds capacities (for example, to lead change for the establishment of non-discriminatory social norms) and supports actors to realize intentions in favour of new and alternative social and political orders.
	Co-produced Knowledge that emerges from collective processes (for example, engagement, negotiation and collaboration with local communities), includes different actors and incorporates their diverse and divergent perspectives, views and interests.
<b>Knowledge enabling contextual realization</b>  Caniglia, G., Lüderitz, C., von Wirth, T., Fazey, I., Martín-López, B., Hondrila, K., König, A., von Wehrden, H., Schäpke, N.A., Laubichler, M.D. and Lang, D.J., 2021. A pluralistic and integrated approach to action-oriented knowledge for sustainability. <i>Nature Sustainability</i> , 4(2), pp.93-100.	Emergent Knowledge generated in open-ended and exploratory cycles of intervention, reflection and evaluation (for example, in real-world laboratories or transition arenas) to identify action pathways, while also improving understanding of how to respond to new experiences, altered interpretations and changed circumstances.
	Tactical Knowledge that supports actors in advancing towards the realization of change by creating alliances (for example, with local communities and authorities in a city), capitalizing on existing resources and opportunities, and adapting to the realities of local contexts while considering short- and long-term effects of interventions.
	Situated Knowledge that emerges from and is often tailored to specific contexts (for example, local ecological knowledge or indigenous knowledge), which is essential for taking action adaptively in response to changing circumstances.

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# TRANSDISCIPLINARITY - A NEW MODE OF SCIENCE

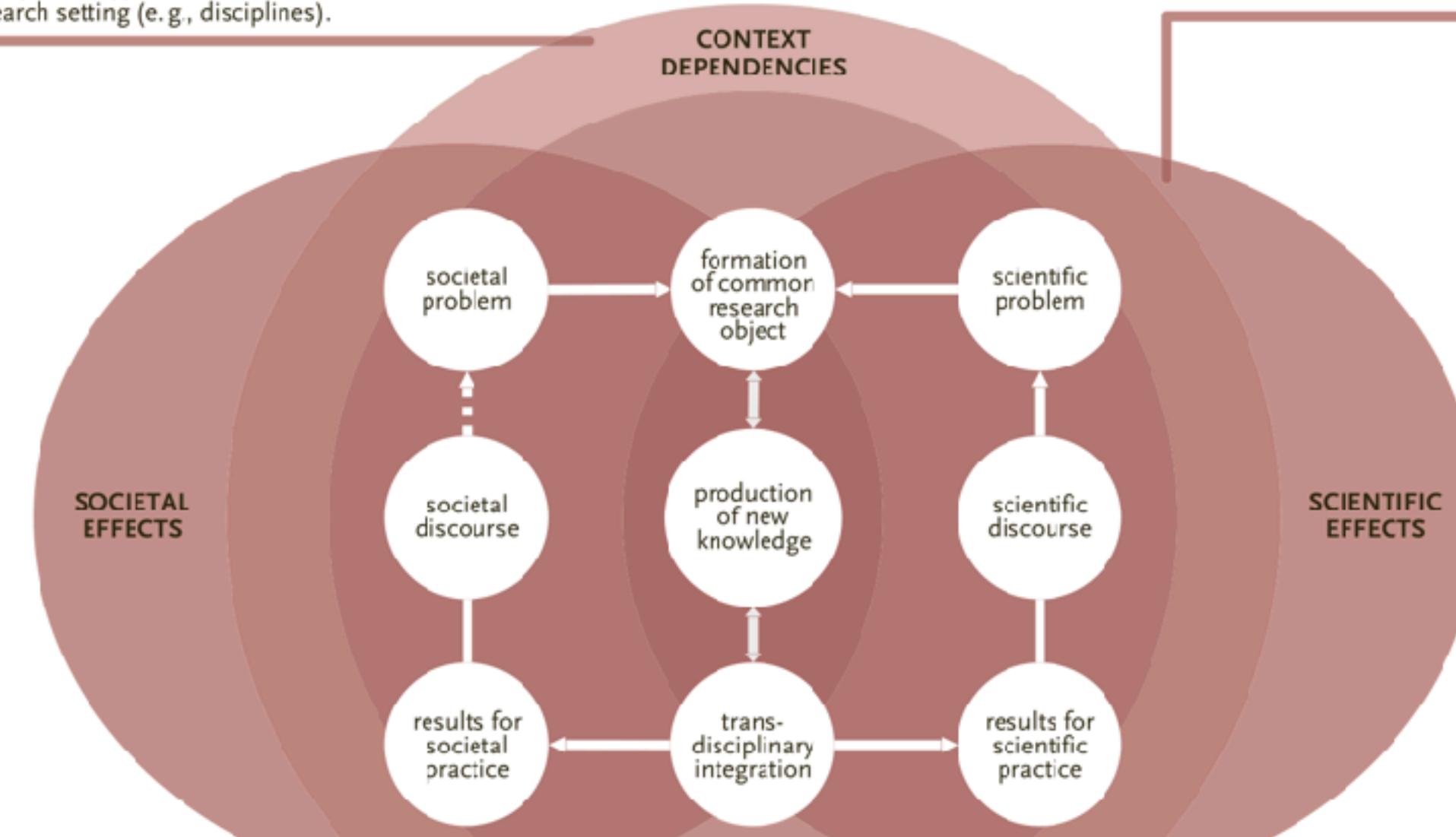


### CONTEXT DEPENDENCIES

Factors influencing both the research design and interpretation of results, e.g., actors, social/cultural/political conditions, and research setting (e.g., disciplines).

### SCIENTIFIC EFFECTS

Changes in structure of research problems, research practices, results, or scientific institutions.



### SOCIAL EFFECTS

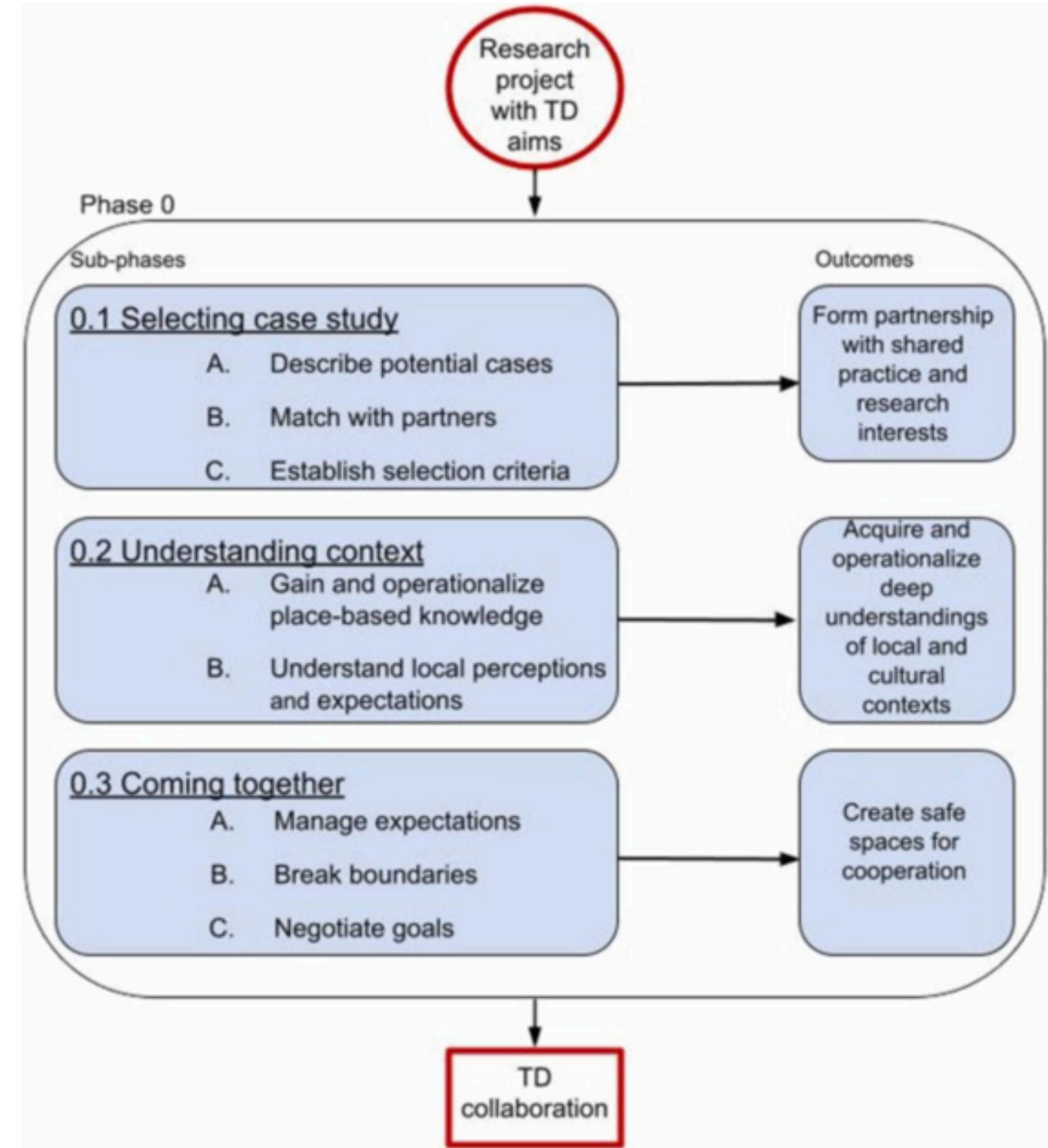
Changes within the close and wider spatial and temporal context of a transdisciplinary research project, e.g., network formation, learning, and structural effects.

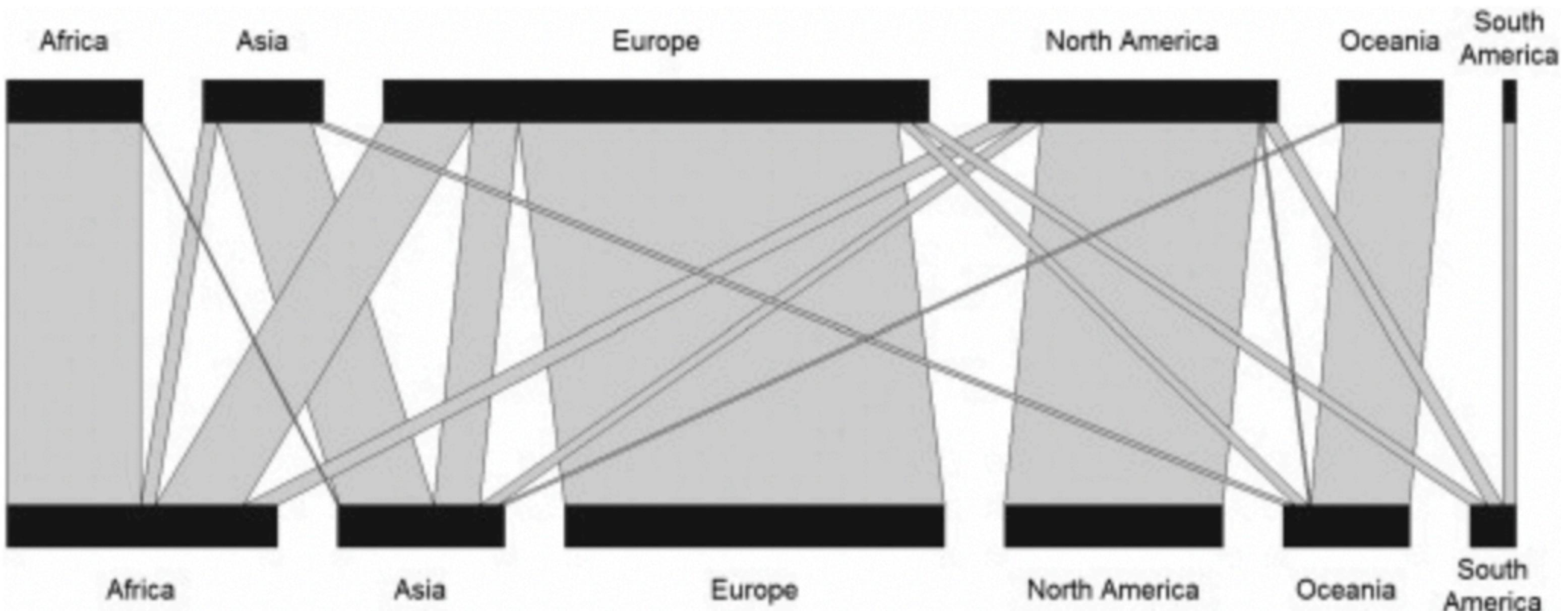
### INNOVATIVE FORMATS AND METHODS

Formats (e.g., real-world labs) structure the whole transdisciplinary process. They include various methods (e.g., interviews, visioning workshops, experiments).

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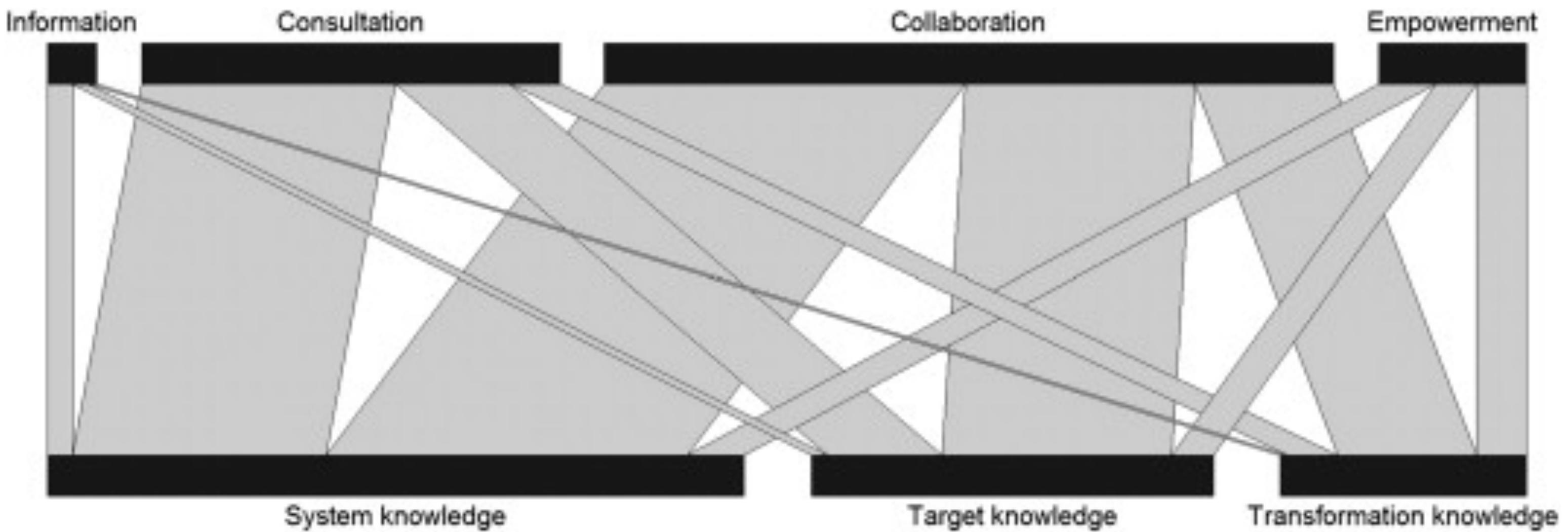


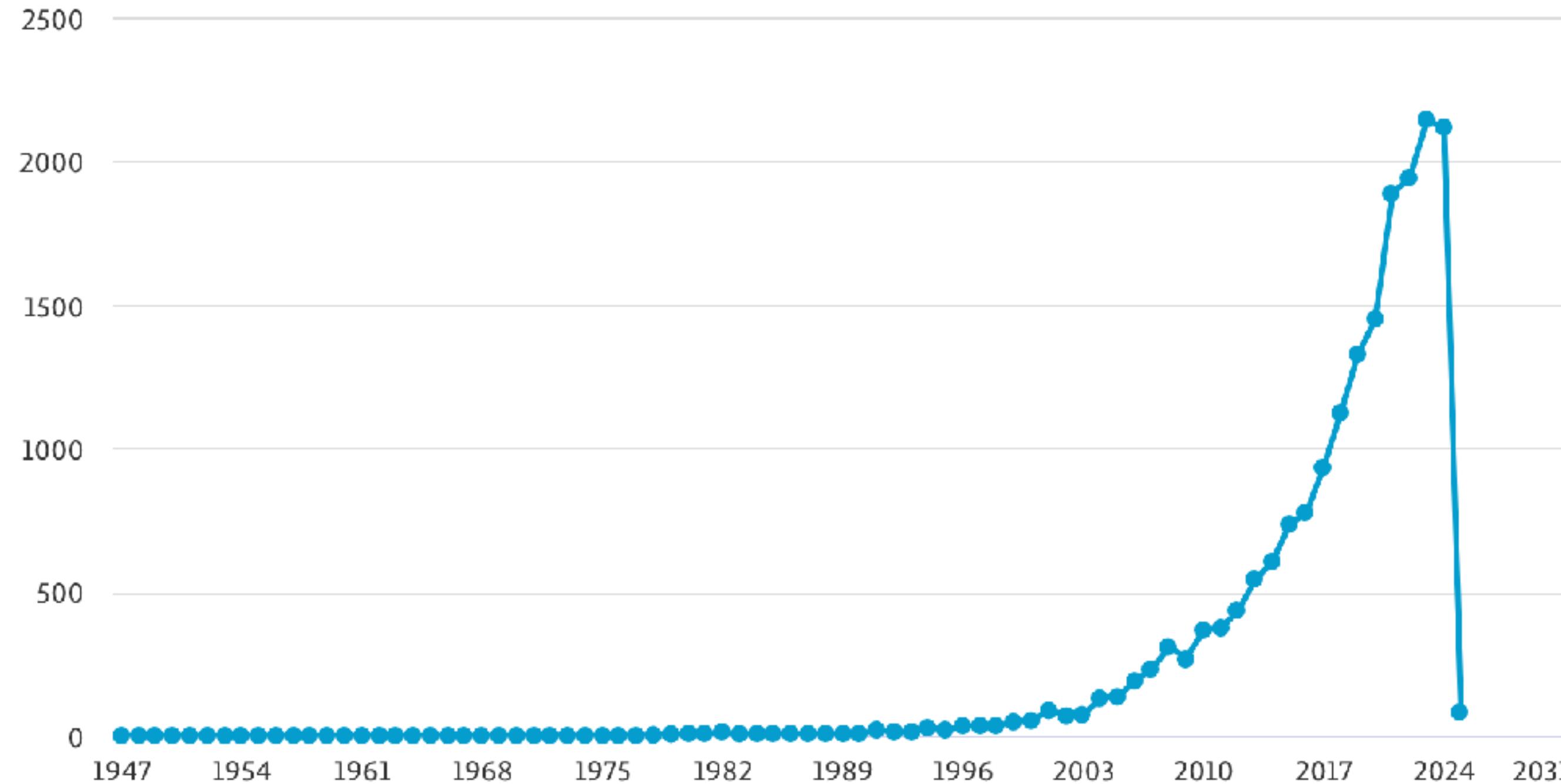




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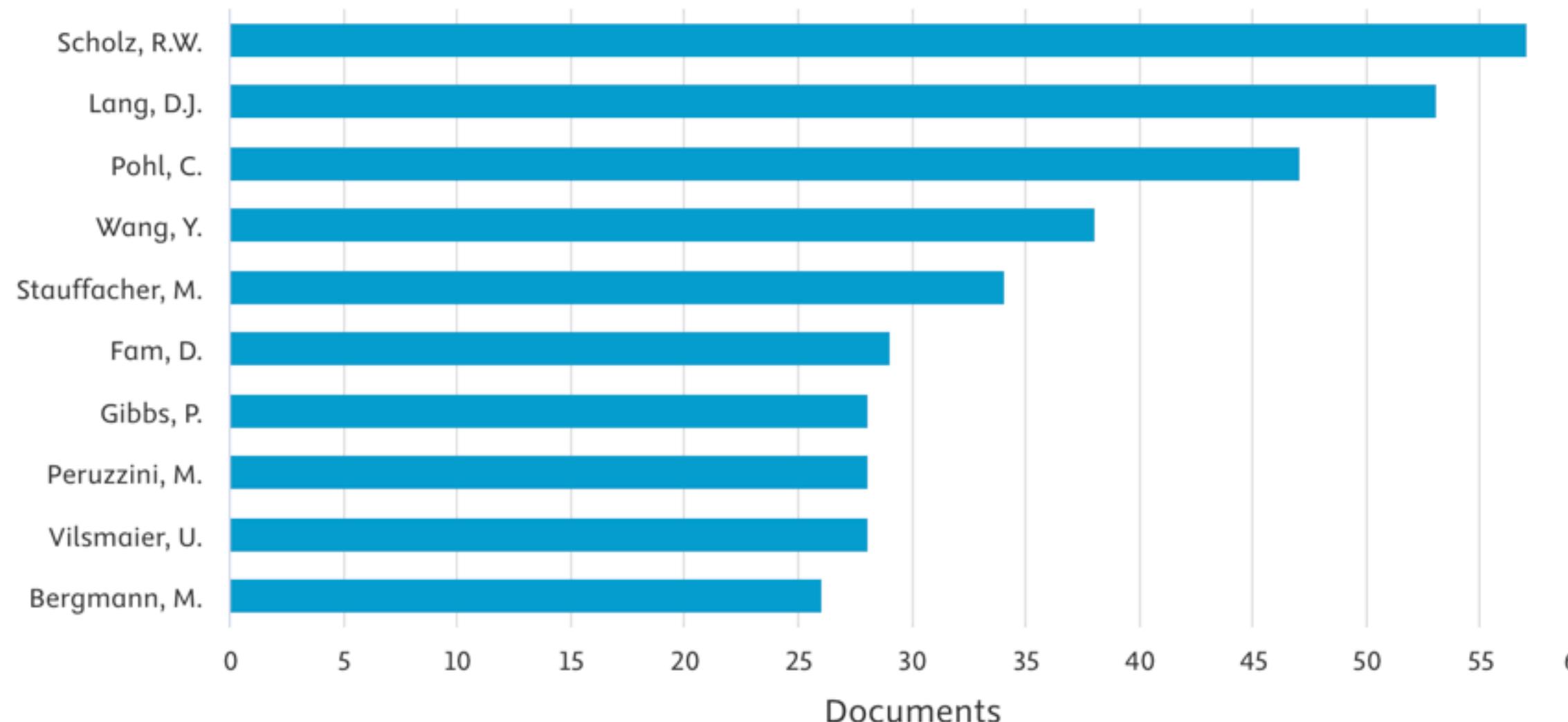


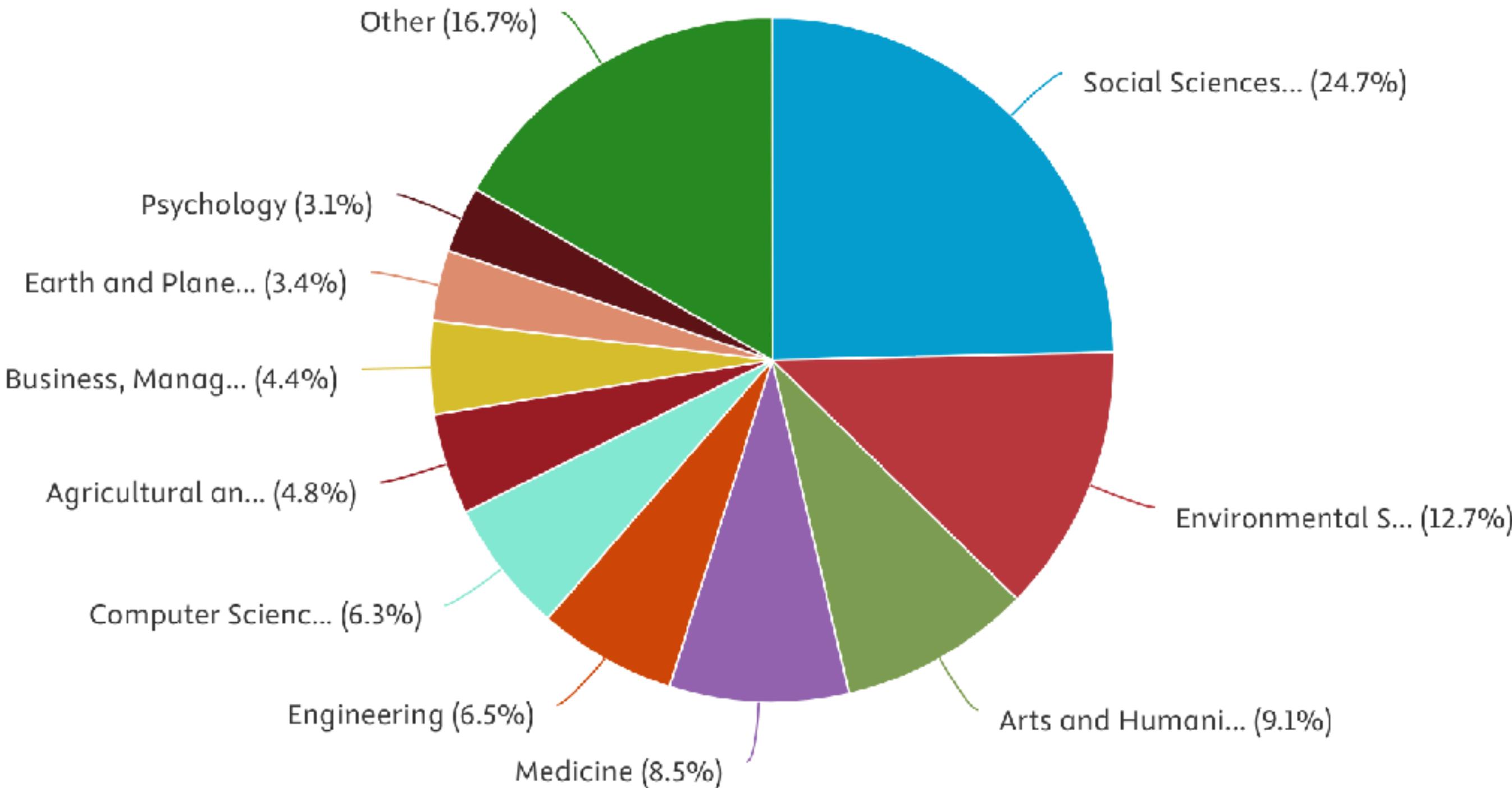


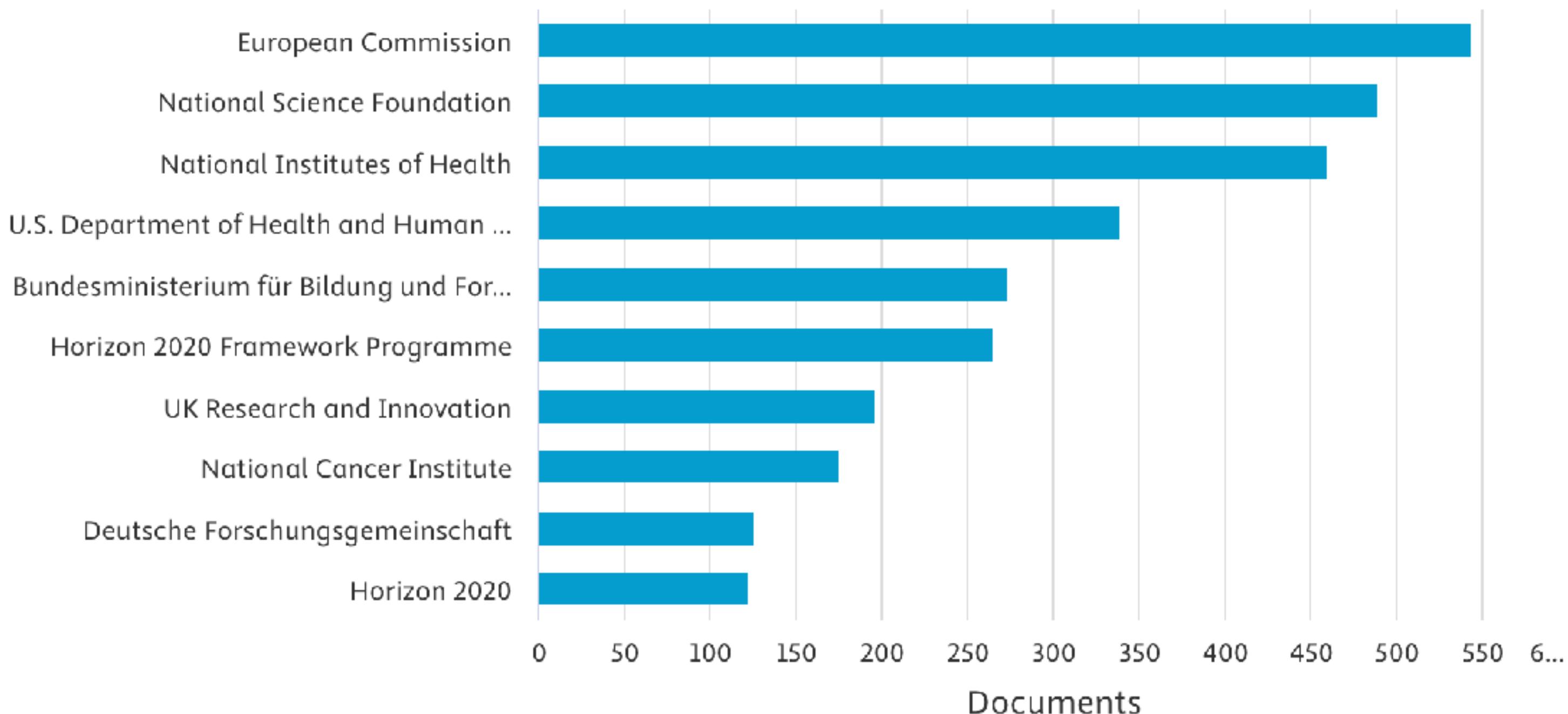


## Documents by author

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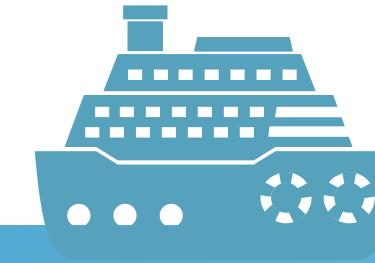




# Transdisciplinarity

## Research

All things that are considered to be part of scientific disciplines, associated knowledge production, such as publications, and the related processes.



## Society

Knowledge production and processes that are part of our societies, can often be tacit or traditions outside or not perceived by science. In addition there are questions of power and norms almost always at play.

# TRANSDISCIPLINARITY

- Currently strongly emerging
- Conglomerate of diverse approaches
- Build on joined problem framing and mutual learning
- Learned based on experience
- Context-dependence is the new frontier
- Stuck between the ambition of basic science and the need for applied science



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