



Beginning at the end: The outcome spaces framework to guide purposive transdisciplinary research



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ABSTRACT

The framework presented in this paper offers an alternative starting point for transdisciplinary research projects seeking to create change. The framework begins at the end: it distinguishes three distinct 'transdisciplinary outcome spaces' and proposes articulating their content for purposive transdisciplinary research projects. Defining upfront the desired improvements has profound implications for how transdisciplinary research is conceived, designed, implemented and evaluated.

Three key realms of transdisciplinary outcome spaces are distinguished – situation, knowledge, and learning – and elaborated: (1) an improvement within the 'situation' or field of inquiry; (2) the generation of relevant stocks and flows of knowledge, including scholarly knowledge and other societal knowledge forms, and making those insights accessible and meaningful to researchers, participants and beneficiaries; and (3) mutual and transformational learning by researchers and research participants to increase the likelihood of persistent change.

Positioning the framework in the field of transdisciplinary literature reveals that much of the contestation concerning transdisciplinary research and practice may be attributable to the diverse but implicit ontological and epistemological perspectives inhabited by transdisciplinary researchers, leading to a call for more reflexive and explicit attention to these and other formative influences (i.e. sources of funding, project motivation, or locus of power).

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1. Introduction

Over the last four decades there has been increasing interest in transdisciplinary research. The complex, messy nature of sustainability problems which cannot easily be tackled from a single disciplinary perspective makes a transdisciplinary approach valuable (Hirsch-Hadorn, Bradley, Pohlc, Ristd, & Wiesmann, 2006; Lawrence, 2010). With increasing literature on transdisciplinarity emerging in the field of sustainability science comes a diverse range of perspectives. In part this diversity reflects the disciplinary characteristics of the researcher, how transdisciplinary research is perceived, practiced and theorised and the potential influence of funding models as well as disciplinary perspectives and history of the researchers involved. The majority of literature on transdisciplinary research tends to focus on the input and/or process of research rather than explicitly acknowledging the outputs or outcomes of the approach. The conceptual model of transdisciplinary

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research presented in this paper offers a complementary starting point by first acknowledging the normative intent of deliberately creating change towards sustainability and then articulating the desired outcomes through the concept of ‘outcome spaces’.

This paper proposes a new framework – *transdisciplinary outcome spaces* – to guide purposive (after Jantsch, 1972) transdisciplinary research (i.e. research that seeks to create change). The three outcome spaces are defined as (1) an improvement in the situation or field of inquiry, (2) the generation of relevant stocks and flows of knowledge, and (3) mutual and transformational learning by the researcher/s and involved participants. This new framework is a distinct contribution that complements and extends both Jantsch’s (1972) original model (see Fig. 1) and Holm et al.’s (2013) radical inter- and transdisciplinary environment (RITE) framework. It also can be seen as a response to Klein’s (2013) call for transdisciplinarians to communicate ‘about how to strengthen both their local projects and their common goals’, and to Lawrence’s (2010) ‘applicability gap’. To achieve the outcomes articulated in the framework, we propose a systemic approach to transdisciplinarity, which brings into focus the relationships between the entities and components in transdisciplinary research – the outcome spaces (i.e. situation, knowledge and learning) and the causal links and interplays between them. In this way the framework is concerned with the interface between research and practice.

This paper explores the premise that explicit and upfront structuring of the outcomes of purposive transdisciplinary research in particular ways has profound implications for the conception, design, implementation and evaluation of individual research projects. In this paper, we position the proposed framework within the field, firstly by arguing for a richer kind of reflexivity in practice from transdisciplinary researchers, and secondly by examining the attributes of transdisciplinary research and their significance for research design and practice. We then identify and detail three essential and distinct outcome spaces for purposive transdisciplinary research, describing their attributes and significance and how they contribute to change. The overlaps, tensions and mutually reinforcing potential between the outcome spaces are explored. Finally, we draw implications and conclusions for the field of transdisciplinary research and practice.

2. Positioning the ‘Outcome Spaces Framework’

2.1. A reflexive approach to positioning transdisciplinary intents

While there is broad agreement that transdisciplinary research is needed to deal with complex societal challenges (e.g. eradicating poverty, responding to climate change) that cross boundaries and disciplinary knowledges (Holm et al., 2013; Horlick-Jones & Sime, 2004; RESCUE, 2012; Wickson, Carew, & Russell, 2006), transdisciplinary research remains a contested concept (Lawrence, 2010; Miller et al., 2008; Pohl, 2011). The intents of transdisciplinary research vary widely (e.g. normative, descriptive, transformational) with a range of approaches and models used by transdisciplinary scholars and practitioners and others in related fields (e.g. Bammer, 2013). Ison (2008) notes that the existence of this variance brings with it a special responsibility: as authors and practitioners contributing to the development of transdisciplinary research

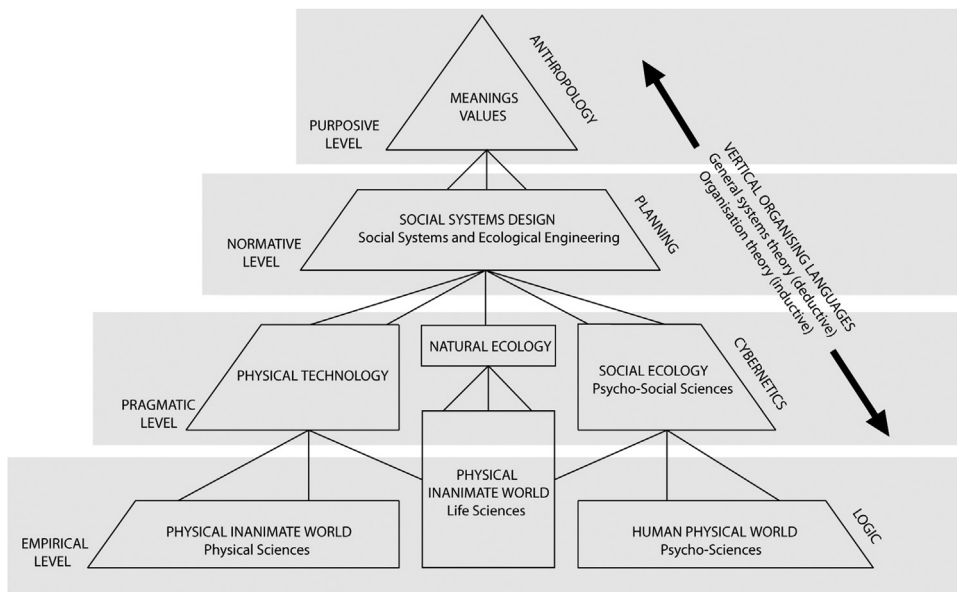


Fig. 1. The Education/Innovation system, viewed as a multi-level, multi-goal hierarchical system. Adapted from Jantsch (1972).

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