Towards a thick understanding of sustainability transitions — Linking transition management, capabilities and social practices

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A B S T R A C T

Scientific activities which are targeted to engage and enact on societal problems – and governance of sustainability transition itself is one such activity – are necessarily prescriptive endeavours, have to recognize the fundamental normativity of sustainable development, need to be based on a thick description of the issues to change, and should embrace the multi-dimensional importance that individuals take in societal change. Societally relevant research on and for sustainability transitions therefore has to produce systems, target, as well as transformative knowledge. The challenges of sustainability transitions require furthermore that the individual and the societal levels have to be linked as to relate individual agency and structural change within the different knowledge types.

Taking transition management as a rather obvious starting point to enrich the concept of sustainability transitions, the paper elaborates that its conceptual basis is too thin to address the first two types of knowledge. In its current elaborations, transition management does furthermore not cover individual agency as potential driver of transitions. We therefore suggest complementing transition management approaches with the more descriptive practice theory and the more normative and individualistic capability approach. We suggest a heuristic combination that places individuals back into the study of sustainability transitions.

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1. Introduction

There are multiple on-going attempts to develop scientific knowledge to enhance sustainability transitions. Part of such knowledge is meant to percolate institutions sufficiently in order to support the development of policies that could further the fundamental changes needed in our societies for a shift to sustainable development (e.g. WBGU, 2011). Considering however these scientific attempts' relatively weak performances in effectively supporting change on larger scales, it might well be assumed that the current knowledge leaves out essential elements. The present paper attempts to identify what elements are missing in transition management (TM) as one of the most prevalent approaches that is currently used in parts of Europe to scientifically ground the governance of sustainability transitions (Grin et al., 2010; Loorbach, 2007). Additionally we propose how at heuristic level to enrich TM's conceptualisation of sustainability transitions. As a frame of reference, we use the differentiation of knowledge in systems, target, and transformative knowledge as elaborated by transdisciplinarity scholars (Costanza et al., 1997; Hirsch Hadorn et al., 2006; Pohl and Hirsch Hadorn, 2007; Jahn et al., 2012). By systems knowledge, we understand the knowledge necessary to understand an issue, i.e. in our case a transition, it's dynamics and reasons; target knowledge is about the future state of the system aimed for, and why it is aimed for; and transformative knowledge is about the ways and means of practically realizing the desired state of the system in question.

We purport that the resolutely transdisciplinary – indeed often action research based – approach and conceptualisation of TM provides a worthy entry point for the development of the necessary *transformative knowledge*. TM allows contextualizing the lessons from facilitating experimentation and learning processes with practitioners developing innovative solutions to societal challenges. TM furthermore generates knowledge on broadening networks of supporters to scale up innovations, and thereby to infuse transformations into society (Loorbach and Rotmans, 2010). However, such knowledge does not suffice when the objective is to contribute to large-scale societal problem-solving. Transformative knowledge has also to take account of the political structure in which it takes place as well as of the agents which are to pursue the transition to sustainability. Additionally, and this is the main point of our argument, *target knowledge* as well as *systems knowledge* need to be generated as well. This double agenda of enriching TM with accurate target- and systems-knowledge is what we pursue hereafter.

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First, research for sustainability transitions as policy-oriented trans-disciplinary research calls for a well-grounded comprehension of what the societal problem is about (i.e. for systems knowledge). Sustainability transitions are defined by Grin et al. (2010: 1) as "a radical transformation towards a sustainable society as a response to a number of persistent problems confronting contemporary modern societies". This raises the question whether to look at the issue from an individual or a societal perspective, or to find an adequate way to combine micro and macro perspectives into a coherent systems-wide knowledge. Fundamental society-wide modifications will necessarily target to change every day behaviour of citizens/consumers. However behavioural approaches, especially in economics grounding on individualistic and rationality-based perspectives, can only to a very small part explain behavioural dynamics and change (Røpke, 2009; Shove, 2010). Behavioural change appears to be rather enshrined in complex soci(et)al practices than to be the result of relatively one-dimensional shifts in individual choices triggered by particular exogenous signals: in clear, it is not the (change of the) price tag on a commodity that helps us understand behaviour. Developing a more adequate dialectic between the individual and the social/collective appears thus to be a prerequisite to enhance our *systems knowledge* of change and of sustainability transitions.

Second, knowledge is needed at the level of the teleology of the analysed sustainability transition (i.e. target knowledge). Non-governed – historical – transitions are only indirectly normative, since they do not follow pre-defined normative goals, but still can be assessed against them ex post. Surprisingly, advocated transition processes such as sustainability transitions as well often do not seem to have clear-cut objectives or normatively defined principles to steer the process of particular transition dynamics towards a more sustainable world. Typically, the substantial and procedural objectives of specific transition initiatives are actually left for definition by involved actors. However, it seems unsatisfying that a governance approach of sustainability transitions avoids explicitly addressing the normativity of sustainability, i.e. intra- and intergenerational justice. Sustainability is based on ethical individualism. This is true since the Brundtland Commission (WCED, 1987) spelled the objective out as the improvement of individuals' conditions (i.e. respecting needs) while preserving environmental conditions (i.e. respecting natural capacities). By extension, sustainability transitions are thus societal phenomena targeting to improve (inter- and intra-generational) justice, the result and consequences of which should be measured at an individual's level. The imperative to generate a layer of *target knowledge*, quite the same as it is argued above with respect to systems knowledge, is inherently asking to relink the societal and the individual. Additionally, it asks to introduce explicit elements of normativity and to confront transition initiatives with an assessment of their environmental impacts.

In the following, we hypothesize that any informational, scientific basis for transition governance should comprise all three layers of knowledge, i.e. target, system and transformative knowledge, and that these are to be grounded both at the societal and at the individual levels. It is indeed the conceptualisation of this bridge between individual and societal levels which we want to explore in the following paper. In extension, our proposal is to combine TM with practice approaches (PA) and the capability approach (CA). This combination provides indeed for a transdisciplinary approach by enriching the transformative knowledge of TM in two directions: First, it adds the possibility to better apprehend the teleology of TM by using CA as the basis for assessing transition initiatives and societal changes (i.e. adding target knowledge). Second, it provides for a more multi-dimensional and robust comprehension of the social systems at play by adding a PA perspective (i.e. adding systems knowledge). We suggest that these three approaches actually are a combinable – and even a stackable – set of approaches, providing for a bundle of heuristics able to ground a more effective and large-scale governance of sustainability transitions.

In the following Section 2, we present TM as our foundational heuristic. In particular, we introduce the multi-level perspective (MLP)

and related transition management approaches and stress their limitations in generating target and systems knowledge. The multi-level perspective as adopted in TM allows developing a focus on how to enhance societal transitions via the building-up and main-streaming of niches.

In Section 3, we start to envisage complementing TM with approaches that improve the provision of target and systems knowledge. First (Section 3.1), we delineate how the capability approach (CA) can be mobilized to assess the enhancement of social justice based on human well-being, and how CA allows accounting for the interaction of societal and personal factors. As a partial theory of justice (Sen, 2009), CA clearly is able to generate target knowledge. However, CA has a series of limitations themselves which render the approach relatively un-operational when it comes to deliver transformative and systems knowledge. In a second instance (Section 3.2), we stack practice approaches (PA) on top of the capability-enriched TM heuristic. By adding PA, we are able to better disentangle human action as resulting from the interaction between meaning, material, and skills. PA provides us with the analytical capacity to develop a reading at meso-level of how change occurs and evolves, and as such can provide for an account of the systems at the intersection of individuals and society.

Section 4 will allow us to discuss the heuristic assemblage of a "CA- and PA-enriched TM", i.e. to envisage the consequences of our attempt to ground the prescriptive governance of normatively defined transitions on a rich description of change(s). We implicitly argue that the strengths and weaknesses of these three heuristics – TM, CA, and PA – can be fruitfully combined into a meta-heuristic. This heuristic will allow re-situating an individual into the conceptualisation of societal transitions and will help to address the normativity-illusion of current TM-approaches. Because none of the three approaches is considered as being fully elaborated theory, we refrain from a discussion of these three approaches in their full theoretical depth. We rather use them as a three-folded heuristic basis that allows developing an enriched (meta) heuristic of transition governance.

2. Transition Management as a Foundational Heuristic

2.1. Transition Research and the Multi-Level Perspective

Rotmans and Loorbach (2009: 185) define transitions as radical, structural changes of societal (sub)systems. Following Rotmans et al. (2001: 16), transitions "can be described as a set of connected changes, which reinforce each other but take place in several different areas, such as technology, the economy, institutions, behaviour, culture, ecology and belief systems". Transition research aims at developing analytical tools that take into account the complexity of societal systems and their mechanisms of innovation. In more detail, Markard et al. (2012: 955) distinguish four different theory strands within transition research: exploring technological innovation systems (e.g. Bergek et al., 2008), applying the multi-level perspective (MLP) to the analysis of historical socio-technical transitions (e.g. Geels and Schot, 2007), elaborating on the operationalization of strategic niche management (Kemp et al., 1998), and experimenting with processes to manage transitions (e.g. Loorbach, 2007; Rotmans et al., 2001). The first two research avenues primarily aim at analysing and describing transitions as processes of radical and structural change focussing on *transition dynamics*. The latter two are rather more prescriptive in their nature and focus on issues of *agency* and how transitions are influenced by deliberate actor-based processes.

Transition research in general has been largely rallying behind a particular perspective on how to analyse dynamics of change: the multi-level perspective (MLP). While the MLP has been considerably complexified over the years, as a shared analytical concept it differentiates three basic levels to analyse change: the niche, the regime, and the landscape (Rip and Kemp, 1998). A socio-technical niche is typically built up by a small group of actors pursuing at least partly differing activities from the regime and is a space particularly prone for more radical