Full Paper

Cultural Narrative Analysis as a way for advancing the Multi-Level Perspective (MLP)

Track: theoretical contributions to transition frameworks

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Summary

The paper presents conceptual reflections on how to tie in the basic assumptions of the multi-level perspective (MLP) (Geels 2002; Geels 2004; Geels & Schot 2007) with the advantages of cultural narrative analysis (Arnold 2018). This will provide a way to enrich current perspectives on socio-technical transitions. Thus, the paper aims at contributing to the conference track "theoretical contributions to transition frameworks".

Recently, various voices in the debate about the transition towards a low-carbon society are calling for "suitable narratives of change" (WBGU 2011: 23), for new stories about sustainable energy sources and consumption and the need to make use of storytelling instruments to facilitate this change. Even though these calls point to the cultural element of social transformation in addition to technological and behavioral approaches, they often remain in an instrumental, purely marketing understanding of narratives.

Socio-cultural narratives fulfill a function in societies that goes far beyond simple *manipulation* of behavior and desire. In a cultural sociological perspective, narratives are an arena of *meaning making,* i.e. the place where people make sense of their lives and experiences (Polletta 2006; Hards 2012). It is assumed that such arenas can have a strong influence on the trajectories of transition pathways: "Narrative is an arena […] in which individuals connect to the public and social world, in which change therefore becomes possible" (Bonnell & Hunt 1999: 17).

The model of the MLP suggests understanding transition dynamics as exchanges between a socio-technical landscape, a dominant regime and innovative niches. This scheme provides a

link to the cultural sociological perspective of the social function of narratives (Smith 2012): cultural meta-narratives as part of the landscape serve as unconscious guiding principles, influencing developments and practices on the level of regime and niche. Niche actors and dynamics operate with visions of a specific form of future developments. Cultural meta-narratives act as point of reference for instrumental narratives in the dominant regime and visions in the niche, which serve as guiding principles for actors.

Concerning the transition towards a low-carbon society, this layout can be applied e.g. to the transition of the mobility system: the current dominance of motorized individual transportation is strongly supported by the high regard for individual freedom of choice in the cultural meta-narrative. The called-for new narratives to facilitate change in this system – i.e. transitioning to ride- and car-sharing-modes, mobility as a service-concepts (MaaS), etc. – need to resonate with existing or emerging cultural meta-narratives to bring about changes in consumption patterns.

Already, transition scholarship is aware of the relevance of cultural and discursive patterns (see e.g. Geels' (2010) understanding of the role of macro-agendas). This paper thus aims at reflecting theoretically and conceptually the possibilities of tying in the scheme suggested by the MLP with more rigorous cultural narrative analysis. In doing so, it offers a way to advance the cultural understanding in transition scholarship.

1 Introduction

While innovation research has rather neglected the role of social visions or guiding principles, transition literature and literature on strategic niche management (Kemp et al. 1998) have identified the specific role of expectations and visions in innovation processes. But although they are part of transition studies, the concepts and analyses lack rigorous analytical insights. Studies presume that social visions guide societal transitions but miss the opportunity to explicate their make-up and social role. Little efforts are made to explicitly describe and analyze the structure and nature of these socio-cultural visions. The debate about the need for sustainable transitions towards a low-carbon society is becoming more and more aware of the necessity of new social stories to aid this transition. Various voices in the debate are calling for "suitable narratives of change" (WBGU 2011: 23), for new stories about sustainable energy sources and consumption and the need to make use of storytelling instruments to facilitate this change. National and global challenges like the finite supply of fossil fuels are not only technological endeavors but are in need of social and cultural support. Such a transformation can be understood as an intentional process of global change with no eminent historical predecessors. Decisions about energy uses have always been made "on a local, regional, or individual scale with limited or no coordination" (Solomon & Krishna 2011: 7422). The successful implementation of such a global transformation – affecting societies on all levels and even on individual lifestyles – is in urgent need for a compelling and consensual narrative in today's (value-) pluralistic societies. Such a narrative supports the pooling of societies' strengths to work towards a common goal (Haan 2002; Giesel 2007) by socially legitimizing this goal and by seeking to achieve pluralistic value- and norm-integration (Habermas 1992). A compelling social story for a sustainable energy supply needs to find a form that does not present the desired transformation as a threat to the industrialization's promises of consumerism and a high standard of living.

To address this blind spot in innovation studies, cultural narrative analysis can be integrated into the framework of the multi-level perspective (MLP). With its differentiation of landscape, regime and niche the MLP offers an analytical blueprint for socio-technical transitions that provides space for understanding visions, guiding principles and narratives. The MLP aims at providing a scheme to understand the overall dynamics of transitions, this includes not only technological innovations, regulatory replies, and novel practices, but also socio-cultural perceptions. How we perceive the world around us and how we make sense of past and current events shapes this perception. Thus, it also shapes the possible outcomes of transition efforts.

Telling stories is a universal human activity (Hards 2012: 762), "human beings are storytelling animals, we tell stories about our triumphs and tragedies" (Alexander 2003a: 84), human beings organize their experiences and memory in the form of narrative stories (Bruner 1991: 4), and these stories are everywhere in social life: "There are countless forms of narrative in the world. […] Narrative is present in myth, legend, fables, tales, short stories, epics, history, tragedy, drame [suspense drama], comedy, pantomime, paintings […], stained-glass windows, movies,

local news, conversation. Moreover, in this infinite variety of forms, it is present at all times, in all places, in all societies; indeed, narrative starts with the very history of mankind; there is not, there has never been anywhere, any people without narrative. […]. Like life itself, it is there, international, transhistorical, transcultural" (Barthes, 1975: 237).

This paper thus aims at reflecting theoretically and conceptually the possibilities of tying in the scheme suggested by the MLP with more rigorous cultural narrative analysis. In doing so, it offers a way to advance the cultural understanding in transition scholarship. This effort might proof fruitful to transition studies and the MLP-framework on two levels: conceptually, the use of a narrative scheme may allow for explicating the characteristics and meaning of the socio-technical landscape as one of three analytical, interacting levels within the MLP. Subsequently, on an empirical level, this might may allow for a more systematized analysis of cultural patterns and how these influence processes of socio-technical transitions.

The paper is organized as follows: first, we will shortly present the structure of the MLP, with a specific focus on the three analytical layers. Secondly, we will describe cultural narrative analysis by introducing definitions of narrative, by examining the social role of narratives and by shedding light on the theoretical basis of narrative analysis. The paper will end with a proposal on how both analytical frameworks can be integrated and how transition studies can benefit from a narrative perspective.

2 The MLP-framework and its application

Geels (2012) claims that most perspectives on socio-technical transitions are too narrow and single-disciplined to grasp the complex patterns and dynamics that lie beneath social reactions to environmental problems (sustainability transitions). The approaches of neo-classical economy, psychology, deep ecology, engineering and industrial ecology and political sciences focus merely on a limited, single-minded set of sustainability dimensions. The MLP-framework seeks to correct this not by simply broadening the analytic scope, but by focusing on interaction between different social realms (industry, technology, markets, policy, culture and civil society). The framework of the MLP suggests understanding transition dynamics as exchanges between a socio-technical landscape, a dominant regime and innovative niches (Geels 2012).

2.1 Three levels of analysis for socio-technical transitions

The MLP presumes that large-scale societal transitions "are non-linear processes that result from the interplay of multiple developments at three analytical levels: niche (the locus of radical innovations), socio-technical regimes (the locus of established practices and associated rules) and an exogenous socio-technical landscape (Geels & Kemp 2012: 52). The interactions between these three levels are shown in the figure 1:
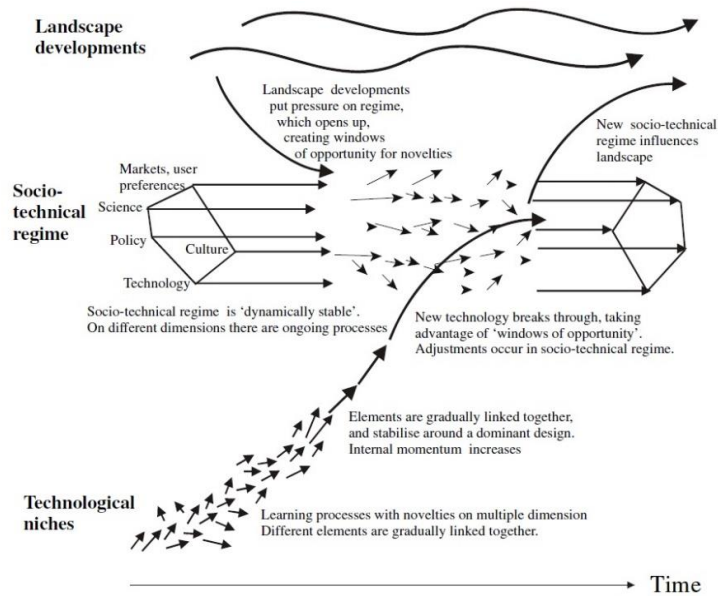
Figure 1: a dynamic multi-level perspective on system innovations (Geels & Kemp 2012: 57)

Niches provide spaces protected from selection pressure of the regime environment (prices, standardized applications, tested high quality). They allow for innovations to be tested, to grow, and to succeed. Their goal is to develop novelties that can later be used in the regime or that can replace a dominant regime altogether. Central to social processes in niches is the articulation of visions for an innovative technology or practice, the building of social networks and the back-and-forth within learning processes of developing innovations.

The dominant regime is characterized by a stable alignment of existing technologies, regulations, user patterns and infrastructures. Its goal is to provide functionality for its users, which requires a high level of stability which in turn only allows for incremental, path-dependent innovations

Geels describes the socio-technical exogenous landscape as "…consisting of a set of deep structural trends. (…) The ST-landscape contains a set of heterogeneous factors, such as oil prices, economic growth, wars, emigration, broad political coalitions, cultural and normative values, environmental problems" (Geels 2002: 1260). The landscape contains material structures but also underlying cultural patterns such as political ideologies, values, beliefs and concerns. It is "exogenous" as its developments take place outside the agency of individuals.

Socio-technical transitions are characterized by an interplay between stability (regime and landscape) and change (niche) (Geels & Kemp 2012: 52, 58): disruptive innovations in protected niche-spaces build up momentum within their niche, that is that pioneers push the innovation (technology, practice) forward. If at the same time changes within the landscape occur, compatible with the innovation developing in the niche, pressure is applied to the dominant regime to either change its ways to incorporate the innovative design emerging from the niche or to put forward its own design as solution to the landscape-problem. If the regime's reaction is deemed inadequate and niche-innovations are ready to be used by early adopters in the regime (at first, later also by patrons and a wider spectrum of consumers), the regime

undergoes a destabilization phase, which can lead to a window of opportunity for niche-innovations. Without landscape pressure – e.g. a wider social concern about CO_2-levels in the atmosphere – niche innovations can stay in market niches without being in competition with regime practices or technologies.

Idealtypically, the interplay between the three levels for socio-technical transitions is as follows:

1. Radical innovations emerge in niches, outside or at the edge of the existing dominant regime → seamless web: unstable, fragile, designs and technologies competing

2. Innovation enters small market niches → provide resources (lead to some stability)

3. Wider breakthrough and competition with regime through improvements (price-performance-ratio), but also through activities and developments on landscape and regime level

4. Niche technology enters mainstream, stabilizes further → replacement of old regime, accompanied by additional socio-technical changes; eventually: new regime influences landscape

2.1 Critiquing the vague definition of the socio-technical landscape

The description and role of the socio-technical landscape is the vaguest of the three levels. Geels states that it contains underlying patterns such as political ideologies, values, beliefs and concerns, as well as manifest cultural artifacts, such as media landscape and economic trends (Geels 2012: 473). The differentiation between landscape and regime also is unclear: consulting the scheme in figure 1 and its description in Geels and Kemp 2012 and Geels 2012, both levels refer to culture as characterizing element. This vague definition of the socio-technical landscape leads to differing application of the scheme in various studies.

The MLP-framework has already been applied to a myriad of social transition phenomena: e-governance (Kompella 2017), transport (Geels 2012), cargo-handling (van Driel & Schot 2005), mobility (Nykvist & Whitmarsh 2008), organic food and sustainable housing (Smith 2007), electricity (Geels et al. 2016), to name just a few. These numerous studies provide a large dataset to trace how the framework is explicated for different transition cases. For this study, their take on describing the characteristics and role of the socio-technical landscape are most important. Together with some criticism that has been formulated over the last years (see e.g. Geels 2011 and Geels 2010 for a pointed summary of some of this criticism), this is our starting point for arguing that the cultural elements of these socio-technical landscapes are better understood in terms of cultural narratives, then using underlying cultural patterns and realm-specific manifestations of those patterns interchangeably.

Van Driel and Schot (2005) investigate the rise of the Rotterdam port as a major port in Europe between 1901 – 1907, due to the mechanization of grain-handling in Rotterdam. The authors identify an increase in grain imports as developments at the landscape level (Van Driel & Schot 2005: 62), which allowed for a window of opportunity for technological innovations that ultimately lead to Rotterdam's rise. However, the increase in grain imports is in itself a manifestation of a larger-scale development, i.e. the result of a large-scale change or development within the landscape.

Kompella (2017) on the other hand refers to societal trends, such as knowledge dissemination or digital divide when describing the socio-technical landscape in the case of e-governance. However, the definition of landscape elements remains blurred, as the author describes those trends as contributing to the shaping of the landscape (Kompella 2017: 84), rather than as defining the landscape.

Nykvist and Whitmarsh (2008) describe in their comparison of two cases of sustainable mobility transition landscape as macro-level trends, such as increasing households and population, increasing incomes, or an increase in the participation of women in the work force (Nykvist & Whitmarsh 2008: 1376). While especially the latter can be connected to change in cultural and ideological patterns (emancipation, individualism), other trends that the authors refer to, such as increases in speed and convenience of travel are more connected to technological developments within the regime (or possibly the niche) than to be described as a shift in ideology and values.

Pointing to these examples is by no means a critique of the studies themselves – all cases make valuable and convincing arguments. Rather, it is a way to point to the problems that come with a concept of landscape that is not quite holistically defined.

Summarizing, we want to hint to the vague concept of socio-technical landscape as a weak spot of the MLP-framework. In order to strengthen this framework, we suggest turning to a culturally informed analysis of meta-narratives. The analytic framework, described in the next section, may offer a way to systematize the description of the patterns occurring in the socio-technical landscape.

3 Narratives – background definitions and analysis

Narrative analysis plays a role in various academic disciplines, from linguistics to literary and cultural theory to social sciences. The latter underwent a "narrative turn" (Mishler 1995: 87-88; 117) in the 1980s, where the use of narrative methods increased from highly technical linguistic analysis of structure to interpretive approaches focusing on content (Hards 2012: 762; Elliott 2005: 3).

Franzosi (1998) poses the question how and why sociologists should be interested in narratives in the first place. After all, narratives seem to belong more in the realm of literary theorists than into the study of social action. On the other side, as the narrative turn indicates, narratives give

way to uncover collective stories in sociologically significant terms (Richardson 1990: 125). Franzosi states that "narrative texts are packed with sociological information, and a great deal of our empirical evidence is in narrative form" (Franzosi 1998: 517). Alexander identifies a growing interest in narrative analysis with sociologists "now reading literary theorists like Northrop Frye, Peter Brooks, and Frederic Jameson […]. The appeal of such theory lies partially in its affinity for a textual understanding of social life" (Alexander, Smith 2003: 25). A structuralist approach highlights the relationships between narrative elements (characters, plot, moral evaluation) in formal models, thus allowing for an application across cases without losing sight of each case's particularities (Alexander & Smith 2003: 25-26).

Constructing a narrative is an important part of social life: communities mobilize resources to protest, fight, or contribute to common projects around narratives (Smith 2010: 136). "Individual stories tie in with a society's narratives about collective cultural meanings. These in turn are embedded in what Lyotard called humankind's great 'meta-narratives' provided by religion, science and tradition" (Paschen & Ison 2014: 4). Real world events must be translated into narrative form. They "must be not only registered within a chronological framework of their original occurrence but narrated as well, that is to say, revealed as possessing a structure, an order of meaning, that they do not possess as mere sequence" (White 1987: 5). Bonnell and Hunt describe the universality of narratives in daily social life: "narratives get their power from being woven into daily life – that is, by molding and expressing popular opinion of how individual motivation and action work" (Bonnell & Hunt 1999b: 18).

The following table gives an overview of quotes from different authors concerning the role of narratives in social life:

Table 1: The social role of narratives

Author(s)	Quote on the social role of narratives
Hards 2012: 762	Narrative approaches suggest that people make sense of their experiences by telling stories to others and to themselves. Advocates claim that storytelling is a universal human activity.
Bonnell & Hunt, 1999a: 17	Narrative is an arena in which meaning takes form, in which individuals connect to the public and social world, and in which change therefore becomes possible.
Smith 2010: 129	Actors articulate their beliefs and thoughts and conceive of appropriate actions to accompany those thoughts […] by the telling of a story with a beginning, middle, and end. Through these expressions, actors come to understand and construct their world and their place within it.

Elliott 2005: 3	A narrative can be understood to organize a sequence of events into a whole so that the significance of each event can be understood through its relation to that whole. This way, a narrative conveys the meaning of events.
Dahlstrom 2010: 857	Narratives influence what individuals believe about the world.
White 1987: 5	Events must be […] narrated as well, that is to say, revealed as possessing a structure, an order of meaning that they do not possess as mere sequence.
Boholm 2015: 14-15	Collective narratives about events […] are predominantly communicated through news media. […] there must be a story about intentions and motives, victims, villains, and heroes, all staged in a specific setting.
Bruner 1991: 4	We organize our experience and our memory of human happenings mainly in the form of narrative […]. Unlike the constructions generated by logical and scientific procedures that can be weeded out by falsification, narrative constructions can only achieve "verisimilitude." Narratives, then, are a version of reality whose acceptability is governed by convention and "narrative necessity.

The role of narratives contains methodological implications for their use in the social sciences. Hinchman and Hinchman state, that "narratives (stories) in the human sciences should be defined provisionally as discourses with a clear sequential order that connect events in a meaningful way for a definite audience and thus offer insights about the world and/ or people's experiences of it" (Hinchman &, Hinchman 1997: xvi). Thus, narrative inquiry is a fruitful way for the social researcher to explore people's experiences and the meaning they connect to those experiences (Hards 2012: 762). Polletta sees the social use of singular narratives against the backdrop of familiar stories within a society and culture, thus influencing social structures. "The relationship between culture, structure, and story is thus complex and variable. Much of the time, structures are reproduced through stories that address familiar oppositions. Sometimes, stories undermine those oppositions in ways that mobilize overt change […]. Stories of women having different job aspirations than men make sense, because they are heard against the backdrop of stories of women having different biologies than men and stories of little girls being different from little boys and stories of people having different tastes" (Polletta 2006: 15). Understanding past and current events in form of narratives gives meaning to them.

3.1 Definition of narrative

Definitions of narrative distinguish in general between structure and form on the one hand and content on the other. The basis for this distinction is a reference to Hayden White's differentiation between content and form (1987), which can be seen analogous to Saussure's distinction between parole and langue and his semiotic use of signifier and signified, where the mere occurrence of events (specific dates, geographical details and so on) correspond as signified to the content of those events as the signifiers (White 1987: 9). Narrative scholars agree by and large on basic structural elements, which are:

- Beginning – middle – end
- Unfolding events
- Presentation of characters (hero – villain – victim)
- Plot
- Moral / transformation

Narratives consist of a beginning, a middle, and an end (Jones & McBeth 2010: 334; Smith 2010: 129; Richardson 2007: 146; Halttunen 1999: 165-166; Labov & Waletzky 1997: 12; White 1987: 17). "Everywhere people experience and interpret their lives in relationship to *time*. […] And, everywhere, humans make sense of their temporal worlds through the narrative" (Richardson, 1990a: 124, italics original). Abbott introduces the term of narration complementary to narrative as the process of telling the story (Abbott 2007: 39-40). He thus achieves a distinction between story and plot as well as between story and narrative, where narrative becomes the representation of a story. This is important because it underlines the role narratives play in transporting meaning: a story can be plotted and narrated in different ways; the factual real-world events stay the same, but their meaning changes with the way they are narrated.

Ryan points out that there exists a general consensus on basic elements of a definition, such as a sequential order of presented events, causality between these events (as opposed to merely a list of events), and those elements that render change possible within a narrative (Ryan 2007: 23; Smith 2010: 133). Elliot summarizes those basic elements in her definition: "Narrative can be understood to organize a sequence of events into a whole so that the significance of each event can be understood through its relation to that whole" (Elliott, 2005: 3). Stone states that these fundamental elements – temporal structure, characters, transformation – can also be found in the structure of policy problems (Stone 2002: 159).

The sequence of events is as important and influential to the meaning as the content of the narrative, because this "sequencing of events implies something about which events are necessary and contribute to a given outcome" (Smith 2010: 133). Besides the temporal paragraphs narratives contain a number of characters that play, as an individual or collective entity, a role in the events that are told (Margolin 2007: 66). The set of characters consists of one or more heroes as fixer(s) of a problem, one or more villains causing a problem, and one or

more victims affected by the problem (McBeth et al. 2005: 415). Characters are part of the design that constitutes a plot and represents ideological positions (Richardson 2007).

3.2 Cultural narrative analysis

Making use of these definitions give way to a structural understanding of narratives, as provided through cultural sociology (Alexander 2003b). This sociological understanding is based on a meaning and knowledge centered concept of culture (Moebius 2009; Reckwitz 2008). This concept is based on phenomenology, pragmatism and semiotics and emphasizes meaning, structure and symbolic order. Cultural sociology thus understands culture as a web of meaning as opposed to a sociology of culture, which centers its analytic attention on the circumstances of cultural production and reception (Alexander & Smith 2003: 20-21). From cultural sociology, there are several features to take away from for a cultural narrative analysis: such an analysis needs to be based on a meaning and knowledge centered concept of culture, in order to uncover symbolic order. This concept allows for an interpretive analysis (Geertz 1973) of social phenomena and the possibility to treat those as cultural text. Understanding social phenomena as cultural text allows for a structuralist analysis, with a differentiation of content and structure, analogous to White's content of the form and Saussure's parole and langue (Saussure 1986, c1983).

The structure of a narrative contains the structural elements in the narrative and thus draws intensely on narrative theory and literature theory. Singling out the clauses that describe a specific set of actors (characters) helps to uncover implicit references to certain characters. It also allows for an understanding of the relationships between those elements.

The level of content combines the broader context of a story as it is framed in the public discourse, resembling Saussure's concept of parole, which he describes as speech as "an individual act of the will and the intelligence", and – with a little license – is expandable to the sense of discourse as is presented by the German *Rede* (Saussure 1986, c1983: 16). This level represents the semantic topic of the narrative and draws on the analytic findings in the structure.

At the center of cultural narrative analysis lies a basic understanding of culture as text as it is basic to cultural sociology. The interpretation of social facts is analyzed with a combination of social, cultural, and literature theory, allowing for a holistic analysis of the underlying cultural patterns within social interpretation.

This understanding makes cultural narrative analysis fruitful for the MLP-framework: it allows for explicating underlying cultural patterns that guide regime- and niche-practices.

4 Integrating cultural narrative analysis and the MLP-framework

How does cultural narrative analysis now offer a solution to the under-defined character and role of the cultural elements of a socio-technical landscape? The answer lies in the structuralistic understanding of narratives, derived from cultural sociology. Possible cross-overs between a structuralist cultural sociology and the MLP are already identified in Geels 2010. However, the

approach taken here focuses heavily on an instrumental understanding of discourse, when the author states that "discourses contain deep structural elements that are *framed by actors* in particular ways. This discursive framing is a contested process in which social movements, industry associations, policy makers, and other special-interest groups struggle to *shape discourses to their advantages*" Geels 2010: 505; italics added). This can be stated for stories and policy briefs published for marketing and PR-reasons on the level of the regime (probably to fight looming changes) or on the level of niche-developments (to further their cause). It cannot be stated for cultural discourses – or a cultural web of meaning – taking place in the landscape, as the MLP itself deems these developments as exogenous, i.e. as not influenced by actors. It is a rather instrumental understanding of culture, one that does not allow for cultural structures as independent and autonomous forces.

Cultural sociology and its understanding of narratives provide this needed perspective; this perspective explains how developments on the regime and niche level can (more or less successfully) resonate with cultural patterns, that inform our thinking and practices as a society. Taking the example of the mobility transition (a transformation of the mobility sector towards a low-carbon system) we argue that the dominant regime of private car use resonates within Western societies with the ideal of individual freedom and expression. Understanding the forces that make up this meta-narrative in the landscape (characters that further this ideal, characters and forces that hinder it, the private car understood in terms of a means to an individual and free end), allows the MLP framework to explicate cultural patterns in the landscape. The sought-after new narratives to facilitate change in this system – i.e. transitioning to ride- and car-sharing-modes, mobility as a service-concepts (MaaS), etc. – need to resonate with existing or emerging cultural meta-narratives to bring about changes in consumption patterns. Visions and expectations formulated by niche-actors or in dominant discourses on the regime-level, need to resonate with cultural meta-narratives. E.g., visions for MaaS-concepts, developed in the transport niche may connect with narratives of a sharing community, individualistic cultures etc. The level of the socio-technical landscape provides the backdrop for collective meaning-making.

Thus, studying transitions with the MLP-framework can benefit from cultural narrative analysis on an empirical (1) and a conceptual (2) level:

1. The suggested approach might help to get a better understanding of the potential alignment of new technologies or practices; an empirical study could make use of the narratives' concept by analyzing the success of innovations in relation to cultural patterns in the socio-technical landscape.

2. It helps overcoming the quite narrow, socio-technical perspective by paying attention to less obvious manifest developments and the role cultural meaning plays in social transitions. Geels (2012) states that this socio-technical approach to transitions reaches beyond other approaches, but just as those criticized (see above), the MLP lacks an understanding of cultural meaning for societies. That is to say that Geels' (2010) suggested use of structuralism as means to identify

frames applied by agenda-driven actors falls short of the theoretical basis of structuralism in a cultural sociological perspective. It thus does not take full advantage of its implications for analytical purposes. Cultural narrative analysis is one viable way to incorporate these benefits to advance the MLP's perspective on socio-technical transitions beyond a purely instrumental point of view.

An integration of cultural narrative analysis has the potential to further the understanding and definition of the socio-technical landscape within the MLP. This can lead to a better understanding on how changes in the landscape occur and what the interaction between landscape and regime/ niche can look like.

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