

## A territorial approach to sustainable transitions

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### Abstract

Sustainable transitions (ST) involve innovations that create new relationships between society, the economy and the environment. ST are processes that reorganize stakeholders, rules, values and activities over time and space. ST articulate different scales (from global to local and vice versa) and relationships between the future and the present.

This article proposes a territorial conceptual framework for ST based on the concepts of *referential* (Muller 2010) and *institutional regimes*. It mobilizes *valuation theory* (see for instance Heinich 2020) to understand how socio-cultural values influence experimentation and innovation and, more broadly, referentials and regimes. In this context, innovation and/or experimentation are seen as socio-cultural processes in which technology carries meaning. The valuation approach helps to formalize the tension between societal aspirations towards ecologization and the need for institutional regimes to be economically viable.

The suggested conceptual framework is a generic one that can be applied to different areas: energy, transport, agriculture, etc. The second part of the paper is an application to the agroecological transition (AET). It shows how the proposed conceptual framework allows to elaborate on the weak and the strong versions of the AET and describe their differentiated political *referentials* and *institutional regimes*. The tensions between the two forms provide a picture of the AET that questions the concepts of transition and of regime.

**Keyword:** transition, territorial approach, valuation theory, referential, regime, agroecological transition

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### Aim

This article deals with *sustainable transitions* (ST) and proposes a heuristic framework for addressing them. ST describe the process of transforming society to reconfigure its relationship with nature. For several decades, this process has been presented as a political-economic project aimed at reconstructing existing models of development. This project, claimed by post-industrial societies, seeks to pursue the paths of modernity (Giddens, 1994) by integrating ecological constraints into models of growth and development (Buttel, 2000; Gibbs, 2000; Mol, 2000; Murphy, 2000). This technical-economic and ideological turn supports the transformation of economic models in response to environmental challenges. The aim is to move beyond the growth and development regime that emerged in the mid-1980s.

This regime, based on the competitiveness paradigm, relies on product innovation driven by supply-side actors. It has been described as unsatisfactory for addressing current societal challenges ("Grand Challenges" according to Kuhlmann and Rip, 2018) linked to the exacerbation of global changes: global warming, depletion of natural resources, inequalities and impoverishment of societies, urbanization and saturation of inhabited space, food insecurity, etc. In this context, the innovations to be supported are seen not only as a vector of technological and economic change, but also as drivers of a genuine societal transformation towards greater sustainability (Mazzucato et al., 2020). This new centrality of societal aspirations and values implies an understanding of how these major challenges are thematized, interpreted, framed as public issues, and concretized in the form of experimentation, innovation, institutional change, etc., to lead to a new regime. The question of the aspirations and values that give rise to innovation must therefore be taken into account.

### Theoretical underpinnings

The promotion of sustainable production and consumption systems is based on the definition and assertion of ecological values, but above all on their translation into concrete actions through the commitment of stakeholders. ST are characterized by the long-term projections of these actors towards a desirable future. They are territorial dynamics that bring into play the general, global aspirations of society and situated experimentation, i.e. localized and developed in different, more or less connected interconnected places. ST can therefore be understood as the desire for change that society itself undertakes, expressing the way in which it positions and organises itself in the face of environmental challenges in order to address them.

An analysis of ST reveals the double tension between, on the one hand, the movement from general aspirations to the experimentation of concrete (material and practical) and particularizing solutions (i.e. contextual in the sense that they provide solutions that are adapted to local circumstances but not very generalizable) and, on the other hand, the dissemination/generalization of these solutions on a larger scale. These processes involve the interaction of a *referential* and an *institutional regime*. Following Muller (2010), we define the

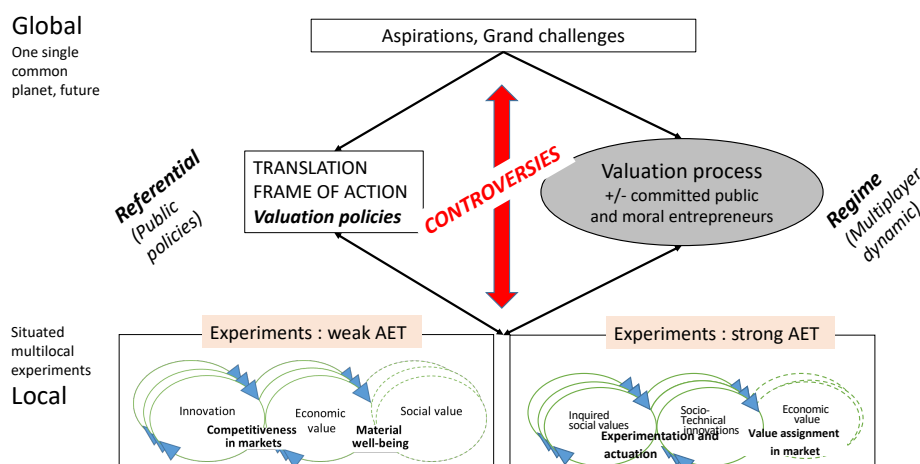
term referential a widely shared representation of the world. It corresponds to the conception of a problem in a given society and is the basis on which the latter acts reflexively upon itself. The referential thus frames decision-making and action processes. The *regime*, on the other hand, is understood as the set of institutions, techniques, practices and routines established for productive purposes.

The concept of regime is rooted in two theoretical approaches. The first is the regulationist approach, which uses the term "accumulation regime" to analyse the dynamics of capitalism (Boyer 1986; Boyer and Saillard, 1995). This notion of regime refers to the way in which economic activities are organised, wealth is created and distributed, competition is established, and the relationship between capital and labour and between the public and private spheres is determined. It is based on five stabilised institutional forms. The second is the multi-level perspective, which defines a socio-technical regime as a set of rules of action organising the relations between actors in terms of the way they produce and consume. This notion of regime describes a coherent and more or less stable set of infrastructures, organisations and the rules that link them (Geels et al., 2004). Although these approaches and definitions differ, they share the idea that a regime is a set of institutions that enable (macro- and micro-) economic regularities.

In this article, we argue that the *referential* and the *regime* interact: the referential frames the movement from the aspirations of society to the experimentation of concrete and particularizing solutions that can be diffused at the regime level through scaling-up processes. This heuristic framework helps to understand to what extent a regime of transition (namely a regime that support ST) may emerge.

ST involve innovations that create new relationships between society, the economy and the environment. ST are processes that reorganize stakeholders, rules, values and activities over time and space. We highlight how socio-cultural values influence experimentation and innovation and, more broadly, *referentials* and *regimes*. We then formalise the tension between societal aspirations towards ecologisation and the need for institutional regimes to be economically viable. The suggested conceptual framework is applied to agro-ecological transition as an emblematic form of ST (Figure 1).

Figure 1. A conceptual framework to analyse sustainable transitions



Source: Authors.

## Method

By reviewing the literature on transitions, we framed STas “wicked problems” (Brønn and Brønn, 2019; Pyykkö et al., 2021; Yearworth, 2016). Consequently, the values expressed by society and built up as public issues to be tackled have to be considered as constitutive elements of the framework.

This article proposes a systemic formalization of ST from a territorial perspective, capable of accounting for multi-actor, multi-scalar and dynamic processes. First, it identifies the actors involved in the implementation of transformative innovations and characterizes the situated experimentation required by these innovation processes. Second, it sheds light on the valuation processes of these innovations, i.e. to show how they are evaluated by the affected communities on the one hand, and how they are valorized in monetary terms on the other.

Our theoretical proposal is inspired by Geels' Multi Level Perspective (MLP) (2002), taking into account the spatial and temporal dimensions of transitions (Truffer and Coenen, 2012). It takes into account the centrality of values in innovation processes by mobilizing valuation theory (Dewey, 1939, 1946; Helgesson and Muniesa 2013; Heinich 2020). From this point of view, our proposal is in line with a pragmatic and constructivist perspective of TS.

## Results

Schematically, we distinguish 2 forms of agro-ecological transition (AET) characterised by different levels of ecological commitment: weak versus strong. We show that the tension between regime and reference system is not of the same nature according to these forms of transition.

Indeed, the essential question posed in the context of weak AET is how to make an economically proven regime more environmentally compatible. It is a question of preserving a regime largely inherited from the competitiveness or even Fordist paradigm, while integrating environmental values. This modification of production systems facilitates their adaptation, allowing them to meet pro-environmental standards without profound changes. Conversely, the implementation of the strong AET means ensuring that the transition regime succeeds in imposing its logic on the existing regime. The challenge is to create economically viable production and consumption models that are considered culturally, socially and environmentally satisfactory, starting from the ecological values that are considered central. This is a two-stage process, involving firstly the experimentation of innovations and secondly their dissemination. While socio-cultural values are the basis on which stakeholders explore transformative solutions, it is essential that these values are adopted and disseminated on a large scale. It is their incorporation into the regime that makes their economic viability possible. In this respect, a strong AET puts pressure on the current regime.

Our proposed conceptual framework makes it possible to account for this dichotomy in terms of *referentials* and *regimes*. On this basis, the agroecological transition appears as a dialectical articulation between two partly convergent and contradictory forces.

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