



HAL
open science

Societal transformation through the prism of the concept of territoire: A French contribution

Carine Pachoud, Kirsten Koop, Emmanuelle George

► **To cite this version:**

Carine Pachoud, Kirsten Koop, Emmanuelle George. Societal transformation through the prism of the concept of territoire: A French contribution. *Environmental Innovation and Societal Transitions*, 2022, 45, pp.101-113. 10.1016/j.eist.2022.10.001 . hal-04592520

HAL Id: hal-04592520

<https://hal.science/hal-04592520>

Submitted on 29 May 2024

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

1 **Societal transformation through the prism of the concept of *territoire*: A French contribution**

2 Carine Pachoud ^{a,b,*}, Kirsten Koop ^b, Emmanuelle George ^c

3 ^a *University Grenoble-Alpes, Labex ITTEM, Grenoble 38000, France*

4 ^b *University Grenoble-Alpes, CNRS, Sciences Po Grenoble, UMR Pacte, Grenoble 38000, France*

5 ^c *University Grenoble-Alpes, INRAE, LESSEM, Grenoble 38000, France*

6 **Abstract**

7 Driven by the need for radical change in our practices and values to escape crises, studies on
8 sustainability transitions have multiplied in recent years. Such radical transformations are situated in
9 space. A spatial approach towards transformative processes can thus inform about the conditions and
10 contexts of such dynamics. Recent publications on the geography of transition tackle this issue but still
11 give little importance to the constructed and relational nature of place that frames interactions between
12 niche, regime and landscape. This paper presents a conceptual framework for the spatial analysis of
13 transformation dynamics by adopting the French-speaking literature on *territoire*. We attempt to show
14 that the conceptualisation of space through the French territorial lens appears highly relevant in the
15 study of sustainability transitions, notably because the concept of *territoire* allows to grasp three
16 fundamental dimensions of transformation (the material, institutional and ideal dimension) and their
17 interactions. It thus enables studying transformation dynamics in a systemic manner. Furthermore, this
18 concept allows researchers to grasp multiple and intertwined power relationships involved in
19 transformation processes by tackling governance issues through the spatial lens.

20 **Keywords:** territorial transformation, *territoire*, French-speaking literature, resource, imaginary,
21 governance

22 **Introduction**

23 The magnitude of global environmental and social changes, such as climate change, resource depletion
24 and social inequalities, have led to a growing consensus that the status quo is insufficient to maintain
25 humanity in a “safe operating space” (Rockström et al., 2009, p. 472), and that a fundamental and

26 radical societal shift towards sustainability is required (Geels, 2010; Grin et al., 2010). A variety of
27 scientific approaches, such as socio-technical (Geels, 2002; 2019), socio-institutional (Loorbach et al.,
28 2015) and socio-ecological transitions (Fischer-Kowalski and Haberl, 2007; Olsson et al., 2014), have
29 emerged to analyse sustainability transitions. These approaches all have a normative focus on
30 sustainability and refer to complex and interdependent processes.

31 The notions of transition and transformation have gradually become institutionalised in the policy
32 vocabulary. These notions raise important questions about individual and collective capacities to
33 deliberately transform societal systems in manners that are both ethical and sustainable. In this paper,
34 we choose to use the notion of transformation, both to move away from an overly sectoral and
35 technological approach, which has long dominated the sustainability transitions studies, and to
36 emphasise the idea of systemic changes within societies in all their dimensions. In fact, we consider
37 transformation as systemic, radical and voluntarist changes in the political, socio-economic and
38 cultural aspects of modern societies (Brand and Wissen, 2017) in response to the wicked problems
39 they face (Levin et al., 2012) – changes that are compatible with the planetary boundaries and that
40 meet the objectives of social, spatial and environmental justice. Transformation trajectories therefore
41 emerge from co-evolutionary interactions amongst several sectors (e.g., energy, food, transport) and
42 cannot be considered in a mono-sectoral manner. These changes also require considering the multiple
43 interactions between humans, and between humans and non-humans (Brand et al., 2020; Feola, 2015;
44 Latour, 2017; O'Brien, 2012).

45 As pointed out by Binz et al. (2020), such transformations are situated in space, as they occur in
46 particular places and are under the influence of different spatial scales. A comprehensive
47 understanding of the context and conditions of transformative processes thus requires a spatial
48 approach. During the last ten years, research on the geography of transitions has increased (e.g., Binz
49 et al., 2014; Coenen et al., 2012; Coenen and Truffer, 2012; Hansen and Coenen, 2015; Murphy, 2015;
50 Raven et al., 2012; Strambach and Pflitsch, 2018, 2020; Truffer and Coenen, 2012; Truffer et al.,
51 2015). This has mainly led to a better understanding of the factors of spatial variability of transition
52 trajectories. These studies have also generated the first suggestions on how space, place and scale can

53 be better incorporated into transitions studies. The spatial approach towards sustainability transitions
54 is, however, still far from being fully explored. One of the nine major research directions proposed in
55 the research agenda of the Sustainability Transitions Research Network (STRN) thus concerns the
56 geography of transitions (Köhler et al., 2019). Yet, the agenda tends to assume that transition
57 processes take place within predefined geographical boundaries (cities, nations) and to disregard the
58 constructed and relational nature of place and the role of multi-scalar relationships (Binz et al., 2020).
59 Moreover, we notice that the currently prevailing geographical concepts in Sustainability Transitions
60 Studies tend to induce rather selective entrance points into the analysis of transformational dynamics.
61 In that respect, the concepts of *sites* and *translocal* are particularly promoted to grasp the dynamics of
62 community-led sustainable grassroots organisations (see Loorbach et al., 2020; Schmid, 2020),
63 whereas the notion of *region* is often connected to the idea of institutional transformations (see
64 Strambach and Pflitsch, 2018, 2020). In 2020, the thematic group *Geography of Sustainability*
65 *Transitions* (GeoST) of the STRN was created to foster dialogue amongst researchers to bridge such
66 gaps.

67 In this paper, we aim to contribute to conversations on the spatial dimension of sustainability transition
68 dynamics. To achieve this objective, we argue that the concept of *territoire*¹ as conceived in French-
69 speaking geography is a particularly useful tool to help transition researchers understand the
70 multidimensionality and complexity of transformational dynamics situated in space. In French-
71 speaking geography, the constructivist school of thought considers that *territoire* matches any
72 geographical space that is socially constructed and is not only linked to the exercise of state power
73 within administrative boundaries (Debarbieux, 1995; Pecqueur, 2006). *Territoires* are considered to be
74 the outcome of agency and the situated relations between actors, they are produced through networks
75 (Giraut, 2013) and are shaped by multiple and intertwined power relationships (Barbier and Hamman,
76 2021). They are at the same time materially, institutionally and symbolically produced (Lopez and
77 Muchnik, 1997). We argue that the concept of *territoire* notably addresses three weakly developed

¹ Since concepts are deeply rooted in the academic contexts where they are developed, their translation into other languages often goes along with the loss of their original meaning. This is particularly true for the French conceptualisation of *territoire*. We thus use the term *territoire* in this paper.

78 issues in the current research on the geography of transitions. Firstly, the concept enables studying the
79 transformation dynamics in a systemic manner, across the societal sectors that are most often
80 considered separately in current research on sustainability transitions research (e.g., energy, mobility).
81 In fact, the approach through the lens of *territoire* implies questioning the role of actors, their identity
82 and their networks in spatial transformation processes – beyond the sectoral approach. The concept
83 also introduces the political dimension of such interactions, as it includes the idea of cooperation as
84 well as conflicts amongst actors engaged in setting up a shared vision and in defining collective
85 actions and objectives for sustainable transformation of what they consider to be their space of
86 belonging (Barbier and Hamman, 2021; Melé, 2008). Secondly, the concept of *territoire* allows
87 integrating the influence of multi-scalar relations on local transformation dynamics. Indeed, the
88 *territoire* is considered to be embedded in the articulation of dynamics occurring on different spatial
89 scales, which are both internal to the *territoire* and also encompassing the *territoire* (Lardon and
90 Piveteau, 2005). The concept of *territoire* therefore makes it possible to analyse not only the
91 articulation between the horizontal networks amongst territorial actors and amongst distant *territoires*
92 but also vertical scales of governance with the different political-administrative levels. Thirdly, the
93 territorial approach presents interesting complementarities with the transition literature on the multi-
94 level perspective (MLP) (e.g., Geels, 2002, 2011). Adding a spatial dimension to the MLP's temporal
95 dimension, the use of *territoire* as an analytical tool contributes to ongoing research (e.g., Murphy,
96 2015) on the role that the spatial embeddedness of social relations plays in determining pathways of
97 niche-regime evolutions.

98 While the ontology of *territoire* has been introduced into economic and innovation geography since
99 the late 1990s (see Crevoisier, 2004; Courlet, 2008; Kebir et al., 2017), contemporary French-speaking
100 literature on *territoire* has not yet addressed possible links with the academic field of Sustainability
101 Transitions Studies, and most of these early scholars focus on territorialised agri-food transitions (e.g.,
102 Bui, 2015; Lamine, 2011, Lamine et al., 2019). The following discussion is therefore to be understood
103 as a first attempt to draw attention to this little perceived concept and to open a conversation on its
104 usefulness in a further conceptualisation of the geography of sustainability transitions.

105 In the next section, we attempt to present the concept of *territoire* as it is understood in French-
106 speaking geography, highlighting several major differences with the English-speaking world's use of
107 *territory*. Our major aim here is to point out the added-value of the notion of *territoire* for the study of
108 transformation dynamics in space. In the three sections that follow this discussion, we discuss
109 territorial transformation dynamics through the lens of the three interdependent dimensions of
110 *territoire*, i.e., the material dimension, the institutional dimension and the ideal dimension. To
111 illustrate these theoretical reflections, we provide examples not only from literature but also from two
112 case studies based on the research that the first author of this paper had conducted. The first example
113 relies on the results of a PhD research, conducted between 2017 and 2020, on collective action for
114 territorial quality differentiation of mountain agri-food products in the Italian Alps and in southern
115 Brazil (First Author, 2020a). The research combined qualitative methods (semi-structured interviews)
116 with quantitative methods (social network analysis, free word association) (First Author, 2019,
117 2020b,c, First Author et al., 2019, 2020). Using a territorial approach, this study aimed to analyse
118 territorial governance and collective identity to account for the institutional and ideal dimensions in
119 the processes of sustainable production of mountain cheese. The second example is based on a
120 transdisciplinary research by a collective of early-career researchers named *Perce-Neige*, working on
121 sustainable transformations in mountains. In November 2021, this study was carried out in the
122 municipality of Gresse-en-Vercors in the French Alps, where two opposing visions on the future of the
123 *territoire* exist amongst the inhabitants: continue investing in the ski industry or reduce dependence on
124 winter tourism and diversify the economy of the *territoire*. The study, which aimed at facilitating the
125 development of a common vision and collective actions for a sustainable future of the *territoire* with
126 the inhabitants, developed a researcher-in-residence approach that combined a wide mix of various
127 qualitative research methods within a transdisciplinary setting (collective walk, individual interviews,
128 participatory workshops, informal daily exchanges) (First author, submitted).

129 In the last section of this paper, we propose a conceptual framework for territorial transformation. This
130 conceptual framework is based not only on our discussions of the material, institutional and ideal
131 dimensions of the *territoire* but also on tackling the interdependencies amongst these three

132 dimensions. The objective is to open up new avenues of research on transformations, adopting a
133 territorial perspective.

134 **1. The *territoire* in the French-speaking literature: a multidimensional and multi-scalar** 135 **perspective**

136 In French-speaking geography, the notion of *territoire* has gained momentum over the last 40 years
137 (Bonnemaison, 1981; Brunet, 1990; Di Méo and Buléon, 2005; Raffestin, 1982). Even if the term is
138 given various meanings in French-speaking academic writings (see Lévy and Lussault, 2003), the
139 *territoire* has definitely been taken out of its political realm and constitutes a multiscale, actor-
140 oriented and relational approach, embracing historical, social, economic, political and ideal
141 dimensions equally (Koop, 2014). This conceptualisation has been largely influenced by the Grenoble
142 "School of territory" (e.g., Courlet, 2008; De Bernardy and Debarbieux, 2003; Giraut 2013, Pecqueur,
143 2006; Vanier, 2009) as well as the *Groupe Européen De Recherche sur les Milieux Innovateurs*
144 (GREMI) which is embedded in economic and innovation geography (e.g., Crevoisier, 2014;
145 Crevoisier and Maillat, 1991; Kebir and Crevoisier, 2007; Kebir et al., 2017).

146 There are many definitions of the concept of *territoire*. In this paper, we choose Lopez and Muchnik's
147 (1997, p. 23) definition of *territoire* as "an elaborated space, socially constructed, culturally marked
148 and institutionally regulated". Far from conforming to fixed administrative limits, the *territoire* is
149 increasingly regarded as a reticular space (Giraut, 2013) whose delimitation varies according to the
150 actors' relations and their relocations (Torre and Beuret, 2012; Bonnemaison 1981). The *territoire* has
151 also a strong symbolic dimension and it carries identity representations that are reflected in visible
152 forms of space (Di Méo and Buléon, 2005; Raffestin, 1982). *Territoire* is thus an abstract concept,
153 which designates a deliberate appropriation of a geographical space, both concrete and symbolic
154 (Brunet, 1990). Another particularity of the concept is that it implies examining the dynamics of
155 multiple scales that influence it. In the sense of Marston (2000), we consider scale not as a preordained
156 hierarchical framework but as relations amongst structural forces and practices. Yet, taking into
157 account hierarchical scales remains important for understanding the power that political-institutional

158 actors at different levels exercise on the *territoire*. In this sense, territorial dynamics include the
159 articulation between horizontal networks and the vertical scales of dominant political institutions.

160 Undoubtedly, the concept of *territory* has also been developed to a great extent beyond its once tight
161 coupling with (nation) states in the English-speaking literature. The influential research of Agnew
162 (1994, 2010, 2013), Elden (2010a, 2013, 2019), Jessop et al. (2008), Murphy (2010), Paasi (2009),
163 Painter (2009) and others, as well as the creation of the interdisciplinary journal *Territory, Politics,*
164 *Governance* in 2012, have largely contributed to broaden the concept. Despite an observable
165 rapprochement during the last two decades, an epistemological difference between the French
166 *territoire* and the English *territory* tends to persist.² The understanding of territory as an outcome of
167 “human behaviour or strategy” (Elden, 2010b) is still less developed in anglophone literature, and
168 most of the English-speaking research is still largely anchored in the sub-discipline of Political
169 Geography.³

170 To avoid ambiguities and to think of space beyond its administrative meaning, the French concept of
171 *territoire* is often translated by *place* in English-speaking geography (Del Biaggio, 2015). In fact,
172 *place* is understood in English-speaking geography as a social construct resulting from network
173 processes, which conveys material and cultural dimensions (Pierce et al., 2011). The agency-based and
174 relational approach to place leads to an analysis of the processes of place-making (see Pierce et al.,
175 2011; Murphy, 2010; 2015), thus coming close to the understanding of *territoire* as the outcome of
176 social as well as political interplays. In this vein, Murphy argues that the concept of place(-making),
177 “conceptualized as multi-scalar relational and political constructs”, is specifically useful to provide
178 critical insights on the drivers of conflicts related to transition initiatives and processes, and help

² The francophone concept of *territoire* is not the only one to differ significantly from the anglophone conceptualisation. This is also the case with the Latin American geography literature mobilising the concept of *territorio*. This approach is followed to analyse the appropriation of space in pursuit of political projects and to demonstrate the existence of territories of resistance (e.g., Zibechi, 2012) that intersect with modern state territoriality, such as those of social movements or indigenous people (Haesbaert and Mason-Deese, 2020; Halvorsen, 2019).

³ A detailed comparison would exceed the scope of this paper. To explore this aspect in more detail, the authors refer to Del Biaggio (2015).

179 develop “more nuanced understandings of socio-spatial context, scale, and the global–local
180 relationships that constitute TIS, regimes, and niches” (Murphy, 2015, p.87-88).

181 We argue that even though *territoire* comes very close to such conceptualisation of place, the concept
182 allows for going even a bit further in the understanding of multiscale place-based transition dynamics,
183 as *territoire* addresses not only socio-political dynamics but also material and ideal dimension.
184 Furthermore, the *territoire* allows for analysing transformations over time, embracing the past, present
185 and future equally. The idea of *projet de territoire* (in English: territorial project) – in the sense of the
186 development of a collective vision for the future amongst actors who have relationships not only of
187 solidarity and cooperation but also by hierarchy, domination and resulting conflicts (Lardon and
188 Piveteau, 2005) – is central to the French-speaking concept of *territoire*. In a perspective of
189 accompanying transformation dynamics, this understanding of *territoire* is thus useful to provide
190 actors with tools that support the design of a common vision for a sustainable future (Barbier and
191 Hamman, 2021).

192 In the following sections, we attempt to show that the French concept of *territoire* categorically calls
193 for a complex and systemic approach allowing to deepen the reflections of sustainable transformations
194 in time and space. The above-mentioned approach notably allows to clarify various interdependent
195 dimensions of the *territoire* – beyond the social and the political. Based on the research of various
196 scholars engaged in pointing out the essential features of the concept of *territoire* (Amblard et al.,
197 2018; First Author, 2020a; Di Méo and Buléon, 2005; Houdart, 2021), we consider three
198 interdependent dimensions constitutive of the *territoire*: the material, the institutional and the ideal
199 dimensions.

200 Firstly, the *territoire*'s material dimension matches its spatial extent and its substance (Houdart, 2021).
201 The substance, which underpins the socio-economic dynamics, refers to biophysical attributes (i.e.,
202 natural properties) and infrastructures resulting from space appropriation and planning by societies.
203 Due to these material properties, the *territoire* is considered as a "source of resources" (Muchnik et al.,
204 2008, p. 515). Resources can also be immaterial, but they are most often translated into a material
205 manifestation (e.g., landscapes) (Buclet, 2018).

206 Secondly, the *territoire* has an institutional dimension, which refers to specific rules and norms
207 guiding the practices of the territorial actors. *Territorial actors* entail actors who intentionally
208 participate in activities with territorial implications (e.g., inhabitants, firms, civil society, public
209 actors), and who are characterised not only by cooperative relationships but also by power and conflict
210 relations (Di Méo, 2014; Glon and Pecqueur, 2016). This dimension remains strongly linked to
211 different public administration and decision-making levels (First Author, 2020b).

212 Thirdly, the ideal dimension of the *territoire* refers to cultural values, identity and attachment to the
213 lived space (Amblard et al., 2018, Di Méo, 2014), which shape the actors' imaginaries on what they
214 believe to be their *territoire*. Such imaginaries are translated into practices and disclosed through
215 narratives (Debarbieux, 1995; Di Méo, 2017). This ideal dimension thus makes the *territoire* a space
216 of collective identity, supported by many symbols that are embedded in landscapes or other objects
217 (Raffestin, 1986).

218 In French-speaking literature, these three dimensions are most often addressed to analyse a specific
219 situation or dynamics over short time spans. In the following sections, we attempt to discuss these
220 dimensions as the constitutive and interrelated dimensions of multiscale localised societal
221 transformation processes, thus allowing for informing about territorial pathways (In French:
222 *trajectoire territoriale*) towards sustainability.

223 **2. The material dimension: The transformative value of territorial material resources**

224 From a multi-scale perspective, increasing the sustainability of *territoires* requires not only a
225 reintegration of the natural resource use in biogeochemical cycles but also a reduction of material and
226 social externalities towards other *territoires* (Barles, 2017). The question of material and energy flows
227 amongst *territoires* presents an important issue with regard to the ecological and social consequences
228 of the consumption of resources used in human activities (Buclet, 2021). In fact, the material
229 dimension of transformation reflects the need to move towards post-carbon and sustainable economies
230 and to focus on relocation strategies based on a diversified and solidarity-based economy (Escobar,

231 2015), such as decentralised energy systems operating on the basis of local democracy (Brisbois,
232 2020) or the construction of localised agroecological food systems (Madelrieux et al., 2017).

233 The concept of *territorial resource* (see Gumuchian and Pecqueur, 2003) is an interesting perspective
234 with which to reconsider our material basis through the prism of spatial transformations towards
235 sustainability. Territorial resources are resources that depend on the context in which they are
236 generated (Colletis and Pecqueur, 2005). They are considered to be revealed through an intentional
237 process with the actors of the *territoire*, involving a collective dynamic of construction (François et al.,
238 2013). This process of revelation thus implies the mobilisation and cooperation of a great diversity of
239 actors involved in multiple sectors. A territorial resource is therefore only revealed when the actors
240 recognise it as such and attribute a value to it (Brunet et al., 1992). This process, based on
241 experimentation and collective learning, should lead to a system of resources that promotes the
242 sustainability of the *territoires*. However, the dynamics are different depending on whether the
243 resource is valued solely according to its market value in the dominant capitalist economy or not. In
244 fact, sustainable territorial transformation dynamics require the construction of the territorial resources'
245 transformative value. This is achieved by integrating environmental, social and cultural values, and not
246 (only) by seeking economic efficiency (Kebir and Crevoisier, 2007). It is precisely this type of
247 revelation that territorial resources other than through commodification can be considered as niche
248 innovations and part of territorial transformation pathways towards sustainability.

249 To our knowledge, only a few studies have started to focus on the role of territorial resources in
250 transformation processes. This is the case of Huguenin (2017) who analyses the relocation of energy
251 production and consumption through the installation of photovoltaic panels at the scale of a Swiss
252 municipality. She shows that the transformative value of this resource lies in the conventional
253 functionality of photovoltaic panels as a source of renewable energy, and that it also combines new
254 functionalities, such as building elements for façade and roof cladding. The photovoltaic panels'
255 cladding function provides not only an additional market value related to the cladding but also an
256 aesthetic quality function embedded in the local urbanistic culture. This example highlights a need for
257 coordination amongst actors from different sectors, including installers, architects and also users, to

258 define the resource's multiple values. Nevertheless, the material dimension of *territoire* linked to
259 resources is not only about the valorising of the local resources but also about the material
260 transformation of *territoire*. Huguenin (2017) therefore shows that new resources resulted in the
261 emergence of new urban landscapes, which she called energy landscapes, referring to material
262 characteristics of the *territoire*.

263 The case of Gresse-en-Vercors is another example of how territorial resources can be revealed in a
264 sustainable manner. Since 1965, when the ski resort of Gresse-en-Vercors opened, snow has been a
265 crucial resource for the inhabitants of this municipality. However, in a context of climate crisis and
266 with increasingly uncertain snowfalls (IPCC, 2021), snow-making machines were installed since the
267 late 1980s to secure the snow cover. At the same time, public policies increasingly support the
268 diversification of tourism activities (Achin and George, 2020). A number of initiatives propose, for
269 example, four-season outdoor activities, such as hiking and biking, by developing trails. Nonetheless,
270 for certain inhabitants it is also a question of reducing dependence on tourism by developing local
271 economic activities (Bourdeau, 2019). These inhabitants have identified other local natural resources,
272 such as agriculture, based on extensive livestock farming and forestry. Furthermore, the *territoire*
273 presents a significant number of non-profit associations with cultural and environmental goals, trying
274 to identify and value other resources by innovating. This is the case of the association *Histoire et*
275 *Patrimoine* that develops thematic walking trails, thus valuing the natural environment and landscape.
276 The collective *Amis Bois* proposes woodworking activities in association with the local sawmill to
277 build or repair urban furniture in the village and alpine huts.

278 In sum, these considerations on the material dimensions of the *territoire*, with a focus on its material
279 resources, reveal that resources are not (only) to be considered as located in space – resources are
280 socially constructed. The territorial approach towards the use of resources for sustainable transitions
281 thus has the advantage of allowing researchers to consider the modes of their valorisation, with the
282 objective of sustainability,⁴ through the relocation of activities and the reduction of externalities

⁴ The concept of territorial resource brings an anthropocentric and even Eurocentric view on the relationship between humans and the environment. In the literature, criticism has grown against this thought on environment

283 towards other *territoires*. Resources should no longer necessarily be defined through a market value
284 but also through environmental, social and cultural values. The definition of new resources and values
285 attached to them requires the development of new institutions (i.e., formal and informal rules and
286 norms) in the *territoire*.

287 **3. The institutional dimension: Designing institutions for sustainability transformation**

288 In a context of sustainability transformation, the institutional dimension of the *territoire* allows for
289 analysing and understanding the interweaving between top-down institutional policies, which are
290 representative of the norms and regulations of the regime, and social innovations, which can be
291 understood as new and often informal dynamics from the civil and/or private territorial actors. Such
292 bottom-up dynamics triggered by grassroots innovations call for a territorialised public action in the
293 sense that policies have to adapt to the changing territorial dynamics to improve the policies'
294 effectiveness and to integrate the peculiarities of the *territoires* (Pachoud, 2021). Territorialisation of
295 public policy requires giving territorial actors a place in the institutional decision-making procedures,
296 or even to change the procedures to enable them to participate (Barbier and Hamman, 2021;
297 Campagne and Pecqueur, 2014). Sometimes, institutional policies are in line with the actions led in the
298 *territoire*. First Author (2020c) shows, for example, that a certain geographical and institutional
299 proximity between the autonomous province of Trento's government and the localised cheese
300 production system's actors had a positive effect on collective action for cheese differentiation. In
301 specific territorial contexts, coercive policies can also lead to triggering territorial dynamics of change.
302 For example, Achin and George (2020) show that the diversification of the tourism offer in ski resorts
303 and, more broadly, in mountain tourist areas of the Alps was initiated by a policy led by the Provence
304 Alpes Côte d'Azur and Auvergne Rhône Alpes regions, in partnership with the state and the European
305 Union (EU), which made funding conditional on the implementation of diversification actions. Most

when it comes to services to humans; furthermore, scholars have elaborated different ontological understandings of the relationships between humans and non-humans / more-than-humans, especially in the deep ecological approach (see e.g., Latour, 2017; Naess, 1986) and the more-than-human geographical literature (e.g., Whatmore, 2006; Wright, 2014). Despite these critiques, we consider the materiality of the *territoire* in a human-centred manner because here we are interested in the modes of valorisation of resources to satisfy basic human needs of production and consumption. It is, however, possible that our considerations might evolve over time.

306 of the time, however, it appears that initiatives from territorial actors, especially from civil society,
307 interfere with institutions when it comes to adapting these initiatives to the local context (Hakimi-
308 Pradels et al., 2022; Schutter et al., 2016; Westley et al., 2014). As Avelino et al. (2017) emphasise, a
309 successful transmission of the visions and practices of such grassroots initiatives to the institutional
310 structures guarantees transformation. Direct transmission is, however, rarely the case. In certain cases,
311 institutional policies integrate alternative projects in a manner that makes the projects compatible with
312 the dominant norms, thus modifying the initial objectives of such projects. This is the case with the
313 *Biovallée* project in the south of France, which is a reference for sustainable transitions for researchers
314 (Bui, 2015; Schutter et al., 2016). As Landel and Koop (2018) show, the project risks being controlled
315 by political interests, leading to a certain trivialization compared to the initial project. Such cases of
316 control by political interests sometimes lead the territorially networked actors to withdraw from
317 cooperation with the public institutions to preserve their original values. Sometimes, actors of social
318 innovations with transformative potential are openly in conflict with political authorities, especially at
319 the local scales (e.g., municipalities) (Koop, 2021). However, even in the best case when local public
320 authorities are inclined to act in favour of transforming local regulations in support of new sustainable
321 practices, the local political authorities generally lack the necessary decisional autonomy to
322 fundamentally change policies. This highlights the need for effective cooperation and articulation
323 between different institutional scales to bring about transformations (e.g., Binz and Truffer, 2012;
324 Truffer and Coenen, 2012).

325 Moreover, the institutional dimension of the territorial approach allows for considering the formal and
326 informal rules and norms shared amongst territorial actors, guiding the management of territorial
327 transformation. Examples of this approach are the sustainable production of localised goods and
328 services (First Author, 2020c) and the sustainable management of natural resources (Ostrom, 1990). A
329 major strength of this approach is its capacity to highlight asymmetric power relations and diverging
330 interests between various territorial actors (public, private, civic) involved in territorial projects, which
331 often lead to conflicts (Patterson et al., 2017). In case of non-convergent norms amongst territorial
332 actors, dominant positions risk to be reinforced and lead to lock-in transformation dynamics. For

333 example, Stotten et al. (2021) show in the case of two Tyrolean villages that actors pursuing their
334 economic interests strongly dominate the governance structures, leading to path dependencies of the
335 *territoires* based on mass tourism. Such situations of dominance and asymmetric power relations can
336 lead to resignation and discouragement of certain groups (notably from civil society) when they are
337 unable to express their aspirations and demands or to make their voices heard. These situations can
338 even lead to the departure of certain groups from the arenas of discussion and negotiation (Torre and
339 Beuret, 2012). These positions of exit or voice can have an individual or a more collective nature
340 (Dowding et al., 2000). Certain studies highlight the need to specifically care for poorly represented or
341 dominated actors in such arenas to participate in transformation dynamics (Hansen and Coenen, 2015;
342 Patterson et al., 2017; Stotten et al., 2021).

343 To illustrate the issue of the institutional dimension of territorial transformations, we now return to the
344 study conducted in Gresse-en-Vercors. In 2020, the municipality, which had been elected for its
345 position on reducing the *territoire*'s dependence on ski tourism, launched a referendum to collect the
346 opinion of the inhabitants on the installation of nine new snow guns at the ski resort. In the difficult
347 context of the Covid crisis, the organisation of the referendum lacked public debates, which would
348 have made it possible to inform the inhabitants of the advantages and limits of the installation of new
349 snow guns and to discuss the different points of view. As a result, two opposing visions emerged and
350 led to conflicts. On the one hand, the long-established residents, often tourism actors themselves,
351 tended to encourage the construction of new snow guns to support further development of the ski
352 resort. On the other hand, the neo-rural population, who constitutes the majority of the municipal list,
353 tended to support the development of other activities that are less dependent on snow and tourism. In
354 the referendum, 60% of the inhabitants voted for the installation of the new snow guns. The
355 department and the region influenced, on the political-administrative levels, a significant portion of the
356 inhabitants to vote in favour of the installation, as the department and the region subsidise the
357 installation of snow guns up to 60% as part of their public policy. Conversely, the Vercors Regional
358 Natural Park, which includes Gresse-en-Vercors, opposed the installation of the snow guns, alongside
359 the municipality. The lack of a co-constructed vision between the territorial actors to define collective

360 actions for their *territoire* and the absence of synergy amongst the multi-level institutions thus led to
361 an unsustainable lock-in.

362 In sum, the institutional dimension of the *territoire* allows for a comprehensive approach of a large
363 variety of actors that are formally or informally involved in spatially situated transformation dynamics.
364 Currently, we observe that public institutions, which embody the dominant regime, are put under
365 tension by the growing pressures of the landscape, on the one hand, and the proliferation of civil
366 society alternatives, which can be considered as niche innovations, on the other hand. Nonetheless, it
367 sometimes appears that these institutional changes are not exclusively triggered by niche innovations,
368 but can also emerge from the actors of the regime who are more inclined to change. Institutional
369 dynamics, thus, call for synergies amongst territorial actors and the different administrative levels.
370 However, designing new institutions alongside the activation of territorial resources towards
371 sustainability, requires more generally a change in territorial imaginaries.

372 **4. The ideal dimension: New territorial imaginaries to trigger transformations**

373 The territorial approach allows for clarifying the ideal dimension within transformation processes – a
374 dimension that rather tends to be neglected in contemporary geography of sustainability transitions. In
375 fact, understanding societal transformation dynamics in space asks for analysing the ideal relations
376 that populations or social groups have to space. These relations are shaped by individual and collective
377 experience and the affective relation to the lived space (Amblard et al., 2018; Di Méo, 2014), which
378 shape imaginaries of the *territoire* and its future evolution (Debarbieux, 2008; 2019). In the following,
379 we focus on imaginaries as a constitutive part of the ideal dimension, revealing values, identity,
380 representations and forms of attachment to the *territoire* as the lived space. Imaginaries can thus be
381 understood as the “background of thinking and action patterns shared within a collective”
382 (Debarbieux, 2019, p. 4).

383 Territorial actors, however, might have divergent imaginaries of what they consider to be their
384 *territoire* and its future. This is especially the case when *territoires* are put under stress by changes at
385 landscape level (e.g., climate or economic crisis). Wittmayer et al. (2019) reveal that community-led

386 initiatives trigger narratives of change, which convey changing imaginaries. We join the position of
387 Wittmayer et al. that the co-creation of narratives of change – and thus new imaginaries of *territoire* –
388 towards sustainability is a central lever for initiating territorial transformations. As the authors
389 emphasise, such narratives of change are intended to break with dominant social imaginaries,
390 revealing “the failings of current systems” and suggesting alternatives that “may lure actors into
391 enrolment by offering opportunities to engage in meaning-making” (2019, p.1). Several studies
392 emphasise that alternative grassroots communities share narratives, ideas and visions through
393 translocal networks across scales (Loorbach et al., 2020; Mc Farlane, 2009). Such sharing at national
394 and global scales is inspiring to local niche actors and triggers new meanings given to the material
395 resources, social relations and practices of *territoires*. Certain studies highlight how such new
396 imaginaries are enacted in space under the effect of geographical proximity. In this vein, Longhurst
397 (2015) shows how a place-based alternative milieu of the city of Totnes, in the sense of a
398 geographically localised concentration of alternative practices, institutions and networks, creates
399 socio-cognitive niches that transform the representation and practice of the city.

400 Research in the Sustainability Transitions Studies conveying such imaginaries and narratives of
401 change, however, tend to concentrate on their emergence and translocal diffusion within alternative
402 networks (thus within social groups sharing similar values), and neglect local tensions when it comes
403 to enacting such imaginaries in space. Considering upcoming imaginaries of transitions through the
404 lens of the ideal dimension(s) of the *territoire* allows to detect locally competing visions on the
405 *territoire* and their impact on territorial organisation processes (as discussed in the chapter above). It
406 contributes to the explanation of clashes and conflicts over the meaning of the *territoire*.

407 When groups deeply contest territorial imaginaries and forms of attachment to the *territoire* of other
408 groups of actors, it is essential for local institutions to foster dialogue to identify shared values and
409 concerns and to negotiate points of disagreement (Chapin and Knapp, 2015). There is the risk that
410 dominant powerful groups of actors (e.g., enterprises that employ an important part of the labour force
411 of the *territoire*) might impose their ideals and imaginaries (Di Méo, 2017). The collective designation
412 of a *territoire*'s emblematic symbols reflecting imaginaries of sustainability appears to be a helpful

413 process allowing to overcome disagreements and to foster a collective identity and imaginary of the
414 *territoire*. For example, First Author (2019) indicates that imaginaries amongst artisanal cheese
415 producers in southern Brazil, based on territorial symbols such as pastures, allowed for greater
416 engagement in collective action for cheese differentiation. Likewise, Longhurst (2015, 2013) argues
417 that a number of spatial symbols, such as landscape aesthetics and images of place, fostered the
418 emergence and development of alternative milieus in Totnes.

419 Our case study in Gresse-en-Vercors illustrates the role and function of the ideal dimensions of
420 territorial transformation dynamics. By means of mental maps, we revealed mainly two competing
421 imaginaries that inhabitants have for “their” *territoire*, influencing their practices and narratives. On
422 the one hand, those who support the installation of new snow guns generally give more importance to
423 the ski resort and the urbanised places in their imagined *territoire*. Most of the persons who support
424 the installation practise downhill skiing. Moreover, they either work at the ski resort, have relatives
425 who work at the ski resort or participated in the development of the ski resort. On the other hand, most
426 of the inhabitants opposed to the new snow guns proved to have an imaginary of their *territoire* that
427 goes beyond the inhabited area and the ski resort. This imaginary includes forests, alpine pastures and
428 mountain summits. The inhabitants who oppose the installation recently moved to the village and
429 rarely use the ski resort. Our interviews further revealed that the narrative of climate crisis and the
430 consciousness of the global snow decrease influence their imaginary. In this case, the global vision
431 contributes to the imaginary of the *territoire's* transformation. We further noticed that the two
432 opposing groups use different symbols that reinforce and give material support to their territorial
433 imagination. The emblematic mountains and the high plateaus that constitute the largest nature reserve
434 in France therefore appear to be more frequent symbols of the *territoire* as imagined by the inhabitants
435 who are opposed to snow making. Conversely, places linked to ski tourism (accommodation, ski
436 slopes, sports shops) appear to be important symbols for the defenders of snow guns.

437 In sum, imaginaries for the *territoire* triggers action and it also triggers the transformation of the
438 corresponding spaces. This is so, as the imaginaries are expressed in a set of social and environmental
439 practices, representations and senses of belonging, and forge identity of the groups and the *territoires*.

440 In case of conflicting imaginaries over the *territoire*, it is necessary to induce discussions and
441 exchanges amongst the different groups to identify converging and diverging elements to achieve a
442 shared vision for the *territoire*.

443 **5. A conceptual framework for territorial transformation**

444 Thus far, the three dimensions of the *territoire* have been discussed separately to make them tangible
445 to the reader. These dimensions are obviously closely linked. Based on Figure 1, which represents a
446 conceptual framework for territorial transformation, we will expose in subsection 5.1 our reflections
447 on the interdependencies amongst the three dimensions of the *territoire*, considering them as the
448 conditions for a deep territorial transformation. This conceptual framework refers to territorial
449 dynamics under construction in time and thus allows thinking about sustainability transitions as
450 territorial pathways. In subsection 5.2, we consider territorial governance and related conflicts to be at
451 the junction where all three of the dimensions interact.

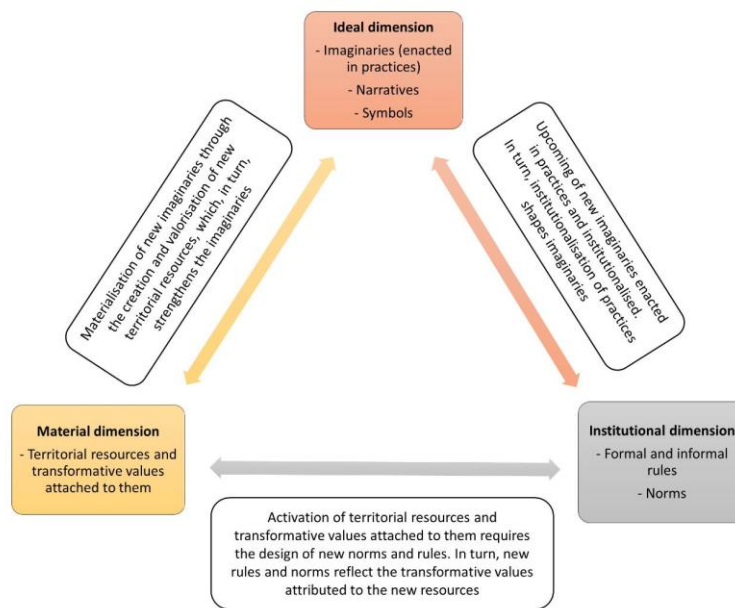
452 **5.1. Interdependencies among the territorial dimensions**

453 We first highlight the relation between the *territoire*'s material and the institutional dimensions
454 involved in transformation dynamics. The identification of new resources and the values linked to
455 them (which we consider here as niche innovations) requires the design of new rules and norms shared
456 by the actors of the *territoire* for a sustainable management of these new resources. For example, the
457 preservation of the characteristic landscapes of Gresse-en-Vercors, which are composed of forests,
458 pastures and summits, requires to agree on norms and more or less tacit rules on how to behave in this
459 environment (e.g., staying on the signposted trails, respecting the tranquillity of the wildlife, picking
460 up one's litter) (Pachoud, 2021). Furthermore, these rules and norms reflect the transformative values
461 attributed to the new resources. For example, forests no longer have a productive value for the
462 inhabitants and the tourists, but are a source of well-being and recreation instead. Public institutions
463 (which can be associated with the regime) at different levels, can then play an important role to
464 facilitate the activation of new territorial resources. This can be achieved, for example, by encouraging

465 the diversification of activities in mountain *territoires* (Achin and George, 2020) or by promoting
466 other resource values (e.g., heritage).

467 The second interdependence we discuss concerns the ideal and the institutional dimension. As already
468 mentioned, imaginaries related to sustainable transformation are put into practice, and the practices are
469 formally or informally codified through institutional processes. Vice versa, the institutionalisation of
470 practices enables the consolidation, sharing and reproduction of collective ideals and imaginaries. In
471 the case of Gresse-en-Vercors, new practices, such as walking trails, biking and ski touring, have
472 become normalised and, in turn, strengthen the imaginary around the natural landscapes of the
473 *territoire*. In many cases, the neo-rural population has brought these new practices to the *territoire*.
474 These practices reflect imaginaries framed by more global imaginaries that are, in turn, influenced by
475 the narrative on climate crisis (e.g., abandonment of the downhill ski practice, outdoor activities that
476 are less dependent on snowfall and in less anthropised areas). A number of these new inhabitants
477 attempt to bring their imaginaries into the public institutions, as several of them have invested
478 themselves politically as municipal representatives in order to foster changes of the regime. This leads
479 public institutions to be more attentive to these new practices and imaginaries, and to potentially
480 trigger deeper transformation.

481 The third interdependence allowing for a better understanding of transformation dynamics in space
482 concerns the one between the material and the ideal dimension. Practices tangibly express the
483 connection between the material dimension of the *territoire* and the imaginaries of territorial actors.
484 Imaginaries are therefore reflected through a particular relationship between the actors and the
485 resources of the *territoire*. Collective narratives of change have the specific function to reinforce this
486 link between the use of new territorial resources and the imaginaries for sustainable transformation.
487 Emblematic symbols of the *territoire* also play an important role, as they bring a material support to
488 these imaginaries and enrich the narratives. In this sense, the inhabitants of Gresse-en-Vercors who are
489 opposed to the installation of new snow guns tend to attach particular importance to mountain peaks
490 and forests for their outdoor activities, to which they refer in their narratives.



491

492 **Fig. 1.** Conceptual framework of territorial transformation based on the three dimensions of the
 493 *territoire* (source: the authors).

494 Territorial governance is a major instance where the interplay of all three dimensions is at stake. This
 495 is so, as territorial governance determines how actors of the *territoire* build common territorial
 496 projects through the identification of new territorial resources and values attributed to them, the
 497 change of institutional policies and dominant norms and the creation of new imaginaries related to
 498 *territoire*.

499 **5.2. Territorial governance at the nexus of the three territorial dimensions**

500 In the context of sustainability transformations, governance should create the conditions not only for
 501 territorial transformation dynamics to emerge at the intersection of the three dimensions mentioned
 502 above, but also for piloting these dynamics towards collective visions, objectives and actions. In fact,
 503 governance has become a major topic of Sustainability Transition Studies. However, it appears that the
 504 main entry points of the transition management research and the related concept of transition arena
 505 (Loorbach et al., 2015) often focus on the sectoral aspect within predefined spatial boundaries (e.g.,
 506 cities, countries) (Kemp and Loorbach, 2006; Loorbach and Rotmans, 2010; Hölscher et al., 2019),

507 thus tending to disregard the constructed and relational nature of space. In that context, territorial
508 governance emerges as a key concept that lies at the intersection of the three dimensions of the
509 *territoire*. It can be defined as complex process dynamics of coordination amongst actors with
510 multiple identities and representations of the *territoire* (e.g., public, private and civic) and
511 asymmetrical resources (e.g., power, knowledge, status) aiming at developing a common project in
512 and of a *territoire* (Leloup et al., 2005; Rey-Valette et al., 2010). It thus appears that the territorial
513 approach to the governance of transitions is able to meet the challenge of considering and dealing
514 simultaneously with values attributed to resources, with informal and formal actions and interactions,
515 with varying identities and imaginaries on lived space and with resulting conflicts, which are at stake
516 in the spatial expression of the interplay between niche innovations, regime and landscape. Territorial
517 governance towards sustainable transformations requires then the facilitation of both horizontal
518 networks amongst territorial actors that promote concerted vision and actions and its articulation with
519 the multi-level institutions. This supposes to characterise the territorial governance structures at work
520 (e.g., defining the dominant and dominated actors, the top-down or bottom-up form of governance) in
521 order to identify the strengths, lock-ins and conflicts to act for sustainable transformation.

522 **Conclusion**

523 This paper aimed at proposing an innovative conceptual framework for the spatial analysis of
524 transformation dynamics by mobilising the concept of *territoire* as conceived in French-speaking
525 geography. This spatial category appears relevant for the study of transformations as it allows for
526 grasping transformations in a systemic manner by analysing three fundamental dimensions (i.e.,
527 material, ideal and institutional) of processes of change situated in space. Furthermore, the concept of
528 *territoire* enables considering power relations and possible conflicts in the shaping of local
529 transformation dynamics.

530 Our reflections offer the opportunity to consider territorial transformations as the simultaneous and
531 interdependent outcomes of the activation of new territorial resources, changes in territorial
532 institutions and the upcoming of new imaginaries for the lived space. Firstly, the transformation

533 towards sustainability relies mainly on the relocation of human activities, the reintegration of the
534 *territoires* into biogeochemical cycles and the reduction of negative externalities. We argued that
535 territorial actors may identify and activate territorial resources that have a transformative potential,
536 such as environmental and cultural values, and not (only) market value. Secondly, considering the
537 institutional dimension of transformation dynamics through the lens of *territoire* allows for analysing
538 not only norms as well as formal and informal rules of a *territoire* that civil or private actors establish
539 to govern new sets of practices, but also their synergies with the different public institutional levels
540 (e.g., regional, national, European). Today, *territoires* face an important challenge in terms of
541 decision-making autonomy. In practice, we still observe a classic top-down form of public policy in
542 which regulations emanate from higher administrative levels. This is specifically the case in non-
543 federal states such as France. At the same time, we notice growing contests from territorial actors with
544 alternative values and practices. The challenge for such alternative actors is to influence public
545 institutions to change their rules and norms. Thirdly, addressing the co-construction of new
546 imaginaries for the *territoire* (here, in the sense of lived space) that advocate sustainability and that are
547 detached from mental models leading to non-sustainable lifestyles allows for highlighting new
548 narratives of change for a *territoire* as well as sharing new territorial symbols. The territorial approach
549 thus enables to analyse conflicting imaginaries of a *territoire* and to encourage exchanges between the
550 groups concerned to define a common vision. Territorial governance then emerges at the nexus of the
551 three dimensions of the *territoire* and allows for simultaneously addressing these three dimensions of
552 territorial transformation pathways.

553 These considerations of transformation dynamics through the prism of the French-speaking *territoire*
554 bring new elements to the current research agenda not only of Sustainability Transition Studies but
555 also notably of the Geography of Sustainability Transition. In turn, we trust that our attempt to
556 rigorously reflect on the *territoire* in terms of sustainability transformation processes helps the French-
557 speaking community grappling with the concept of *territoire* think about territorial pathways towards
558 sustainability.

559 First of all, the *territoire* raises questions for the further conceptualization of the Geography of
560 Sustainability Transitions. A major strength of this concept is that it allows moving away from a
561 sectoral representation of transitions and to adopt a multidimensional approach. In fact, studies in the
562 geography of transitions often focus on socio-technical transformations of one sector such as energy
563 transition (e.g., Bridge et al., 2013, 2020; Calvert, 2016, Murphy, 2015). As a consequence, studies on
564 the geography of transitions are often technocentric and top-down as suggested in research agendas
565 (Köhler et al., 2019) and in research on technological innovation systems (Binz et al., 2012; Murphy,
566 2015). *Territoire* allows for a cross-sectoral and holistic view on transformation dynamics and is
567 therefore an important and complementary approach to the sectoral one. Furthermore, geography of
568 transitions is also often characterised by the analysis of transitions within pre-given boundaries such as
569 administrative areas (Binz et al., 2020), while the *territoire* offers the opportunity to avoid the
570 administrative frameworks and to clarify the complex construction processes of space, including the
571 role of multiple administrative levels. The *territoire* emphasises the construction of a common project
572 through consultation between territorial actors. This allows taking into account local visions –
573 considering identity and sense of belonging, imaginaries and narrative (e.g., Chapin and Knapp, 2015;
574 Frantzeskaki, 2018; Wittmayer et al., 2020) – and a socially-embedded model of innovation, which is
575 a growing issue in the geography of transitions (see the special issue on Transformative Geographies
576 of Community Initiatives in *Environmental Policy and Governance*). Last but not least, another
577 strength of the territorial approach can be observed in it allowing focusing on all types of spaces
578 including rural areas, whereas urban transitions currently tend to dominate in the geography of
579 transitions (Köhler et al., 2019).

580 Secondly, the *territoire* makes concrete the three levels addressed by the multi-level perspective,
581 which are at stake in transformation dynamics. Changes at landscape level become tangible in a
582 *territoire* and lead territorial actors to (re)act – as has been shown in the example of Gresse-en-Vercors
583 which faces reduced snowfalls. Socio-spatially embedded innovations (e.g., through the attribution of
584 new values to material resources) emerging from civil territorial actors can then be regarded as niche
585 innovations that seek to change the territorial pathway and put pressure on public institutions as part of

586 the dominant regime. *Territoire* thus encompasses the articulations between niches, regimes and
587 landscape, and allows for discussing them from an actor-oriented and relational perspective.
588 Furthermore, *territoire* documents the complexity and diversity of transformation processes and sheds
589 light on three place-based factors at play in these processes: the changing relations of actors to their
590 environment, the transformation of institutions, and the changed imaginaries when it comes to the
591 future of the *territoire*. The *territoire* might thus give keys for co-constructing participatory
592 approaches with territorial actors and thus open avenues to consider transition management and
593 strategic niche management from a more resolute spatial perspective.

594 In turn, thinking about *territoire* in terms of sustainability transitions leads to enriching the French-
595 speaking geography on *territoire*. It allows for the inclusion of considerations on the interactions
596 between niche, regime and landscape – as niche, regime and landscape become concrete and
597 materialised in space. Furthermore, the study of sustainability transformations of *territoires* raises the
598 question of territorial pathways towards sustainability as the outcome of interdependent dynamics
599 between its three dimensions. Such reflections are only at the exploratory stage in the francophone
600 literature (Girard and Landel, 2020; Koop, 2021).

601 We trust we have shown that including the territorial perspective in the study of sustainability
602 transformations opens the path to numerous avenues of research and cross-fertilisation between the
603 international Geography of Sustainability Transitions and French-speaking geography to strengthen
604 the analysis of transformations adopting a spatio-temporal approach. We would be pleased if these
605 first explorations open up a number of productive trading zones between the French and the English
606 universes of scholarship.

607 **Funding**

608 The research was funded by the Labex ITEM (ANR-10-LABX-50-01) within the framework of the
609 "Investissements d'Avenir" of the French National Research Agency.

610 **Acknowledgements**

611 We would like to express our gratitude to the editor and the reviewers for detailed and highly
612 constructive feedback on the paper.

613 **References**

- 614 Achin, C., George, E., 2020. Tourism Diversification in the Development of French Ski Resorts, in: Pröbstl-Haider U., Richins H., Stefan
615 Türk S. (Eds.), Winter tourism, Trends and challenges. CABI, Wallingford, pp.388-399.
- 616 Agnew, J., 1994. The territorial trap: The geographical assumptions of international relations theory. *Rev. Int. Political Econ.* 1(1), 53-80.
617 <https://doi.org/10.1080/09692299408434268>
- 618 Agnew, J., 2010. Still Trapped in Territory? *Geopolitics* 15(4), 779-784. <https://doi.org/10.1080/14650041003717558>
- 619 Agnew, J., 2013. Territory, Politics, Governance. *Territ. Politic. Gov.* 1(1), 1-4. <https://doi.org/10.1080/21622671.2013.765754>
- 620 Amblard, L., Berthomé, G.E.K., Houdart, M., Lardon, S., 2018. L'action collective dans les territoires. *Questions structurantes et fronts de*
621 *recherche. Géogr. Econ. Soc.* 20, 227–246. <https://doi.org/10.3166/ges.20.2017.0032>
- 622 Avelino, F., Wittmayer, J.M., Kemp, R., Haxeltine, A., 2017. Game-changers and transformative social innovation. *Ecol. Soc.* 22(4), 41.
623 <https://doi.org/10.5751/ES-09897-220441>
- 624 Barbier, R., Hamman, P., 2021. *La Fabrique contemporaine des territoires*. Le Cavalier Bleu, Paris.
- 625 Barles, S., 2017. Écologie territoriale et métabolisme urbain : quelques enjeux de la transition socioécologique. *RERU* 5, 819-836.
626 <https://doi.org/10.3917/reru.175.0819>
- 627 Binz, C., Truffer, B., 2012. Technological innovation systems in multi-scalar space. *Geogr. Helv.* 66, 254–260. [628 66-254-2011](https://doi.org/10.5194/gh-)
- 629 Binz, C., Truffer, B., Coenen, L., 2014. Why space matters in technological innovation systems—Mapping global knowledge dynamics of
630 membrane bioreactor technology. *Res. Policy* 43, 138–155. <https://doi.org/10.1016/j.respol.2013.07.002>
- 631 Binz, C., Coenen, L., Murphy, J.T., Truffer, B., 2020. Geographies of transition—From topical concerns to theoretical engagement: A
632 comment on the transitions research agenda. *Environ. Innov. Soc. Transit.* 34, 1–3. <https://doi.org/10.1016/j.eist.2019.11.002>
- 633 Bonnemaïson, J., 1981. Voyage autour du territoire. *Espace géogr.* 10, 249–262. <https://doi.org/10.3406/spgeo.1981.3673>
- 634 Bourdeau, P., 2019. Winter Tourism: lost in transition? The process of transformation and inertia of the ski industry and places in the French
635 Alps, in: Pröbstl-Haider U., Richins H. and Stefan Türk S. (Eds.), Winter tourism, Trends and challenges. CABI, Wallingford, pp. 493-508.
- 636 Brand, U., Wissen, M., 2017. Social-Ecological Transformation, in: Richardson, D., Castree, N., Goodchild, M.F., Kobayashi, A., Liu, W.,
637 Marston, R.A. (Eds.), *International Encyclopedia of Geography: People, the Earth, Environment and Technology*. John Wiley & Sons,
638 Oxford, pp. 1–9. <https://doi.org/10.1002/9781118786352.wbieg0690>

- 639 Brand, U., Görg, C., Wissen, M., 2020. Overcoming neoliberal globalization: social-ecological transformation from a Polanyian perspective
640 and beyond. *Globalizations* 17, 161–176. <https://doi.org/10.1080/14747731.2019.1644708>
- 641 Brisbois, M.C., 2020. Shifting political power in an era of electricity decentralization: Rescaling, reorganization and battles for influence.
642 *Environ. Innov. Soc. Transit.* 36, 49-69. <https://doi.org/10.1016/j.eist.2020.04.007>
- 643 Bridge, G., Bouzarovski, S., Bradshaw, M., Eyre, N., 2013. Geographies of energy transition: Space, place and the low-carbon economy.
644 *Energy Policy* 53, 331-340, <https://doi.org/10.1016/j.enpol.2012.10.066>
- 645 Bridge, G., Gailing, L., 2020. New energy spaces: Towards a geographical political economy of energy transition. *Environ. Plan. A* 52(6),
646 1037-1050. <https://doi.org/10.1177/0308518X20939570>
- 647 Brunet, R., 1990. *Le territoire dans les turbulences*. Reclus, Paris.
- 648 Brunet R., Ferras, R., Théry, H., 1992. *Les mots de la géographie : dictionnaire critique*. RECLUS-la Documentation française, Montpellier,
649 Paris.
- 650 Buclet, N., 2018. *Écologie territoriale : la richesse des interactions entre flux et acteurs à travers l'exemple du beaufort*. *URBIA* 21, 155–171.
- 651 Buclet, N., 2021. *Territorial Ecology and Socio-ecological Transition*. Vol. 34. Wiley, London.
- 652 Bui, S., 2015. *Pour une approche territoriale des transitions écologiques. Analyse de la transition vers l'agroécologie dans la Biovallée*
653 (1970-2015). Doctoral thesis, AgroParisTech, Paris.
- 654 Calvert, K., 2016. From 'energy geography' to 'energy geographies': Perspectives on a fertile academic borderland. *Prog. Human Geogr.*
655 40(1), 105-125. <https://doi.org/10.1177/0309132514566343>
- 656 Campagne, P., Pecqueur, B., 2014. *Le développement territorial. Une réponse émergente à la mondialisation*. Charles Léopold Mayer, Paris.
- 657 Chapin, F.S., Knapp, C.N., 2015. Sense of place: A process for identifying and negotiating potentially contested visions of sustainability.
658 *Environ. Sci. Policy* 53, 38–46. <https://doi.org/10.1016/j.envsci.2015.04.012>
- 659 Coenen, L., Benneworth, P., Truffer, B., 2012. Toward a spatial perspective on sustainability transitions. *Res. Policy* 41, 968–979.
660 <https://doi.org/10.1016/j.respol.2012.02.014>
- 661 Coenen, L., Truffer, B., 2012. Places and Spaces of Sustainability Transitions: Geographical Contributions to an Emerging Research and
662 Policy Field. *Eur. Plan. Stud* 20, 367–374. <https://doi.org/10.1080/09654313.2012.651802>
- 663 Colletis, G., Pecqueur, B., 2005. Révélation de ressources spécifiques et coordination située. *Econ. Inst.* 6-7, 51–74.
664 <https://doi.org/10.4000/ei.900>
- 665 Crevoisier, O., 2004. The Innovative Milieus Approach: Toward a Territorialized Understanding of the Economy? *Econ. Geogr.* 80(4), 367-
666 379, <https://doi.org/10.1111/j.1944-8287.2004.tb00243.x>

- 667 Crevoisier, O., 2014. Beyond Territorial Innovation Models: The Pertinence of the Territorial Approach, *Reg. Stud.* 48(3), 551-561,
668 <https://doi.org/10.1080/00343404.2011.602629>
- 669 Crevoisier, O., Maillat, D., 1991. Milieu, industrial organization and territorial production system - towards a new theory of spatial
670 development, in: Camagni, E. (Ed.), *Innovation networks*. Belhaven Press, London, p. 13-34.
- 671 Courlet C., 2008. *L'économie territoriale*. Presses Universitaires de Grenoble, Grenoble.
- 672 Debarbieux, B., 1995. Le lieu, le territoire et trois figures de rhétorique. *Espace Geogr.* 24, 97–112. <https://doi.org/10.3406/spgeo.1995.3363>
- 673 Debarbieux, B., 2008. Construits identitaires et imaginaires de la territorialité : variations autour de la figure du « montagnard ». *Ann. Geogr.*
674 660-661, 90–115. Debarbieux, B., 2019. *Social imaginaries of space: concepts and cases*. Edward Elgar, Cheltenham.
- 675 De Bernardy, M. Debarbieux, B., 2003. *Le territoire en sciences sociales. Approches disciplinaires et pratiques de laboratoire*. MSH-Alpes,
676 Grenoble.
- 677 Del Biaggio, C., 2015. Territory beyond the anglophone tradition, in: Agnew, J.A., Mamadouh, V., Secor, A., Sharp, J. (Eds.), *The Wiley*
678 *Blackwell Companion to Political Geography*. Wiley-Blackwell, Hoboken, pp. 35–47.
- 679 Di Méo, G., 2014. *Introduction à la géographie sociale*. Armand Colin, Paris.
- 680 Di Méo, G., 2017. *Le désarroi identitaire - Une géographie sociale*. L'Harmattan, Paris.
- 681 Di Méo, G., Buléon, P., 2005. *L'espace social*. Armand Colin, Paris.
- 682 Dowding, K., 2000. Institutional Research on the European Union: A Critical Review. *Eur. Union Polit.* 1(1):125-144.
683 <https://doi.org/10.1177/1465116500001001006>
- 684 Elden, S., 2010a. Land, terrain, territory. *Prog. Hum. Geogr.* 34, 799–817. <https://doi.org/10.1177/0309132510362603>
- 685 Elden, S. 2010b. Thinking Territory Historically. *Geopolitics* 15 (4), 757 – 761. <https://doi.org/10.1080/14650041003717517>
- 686 Elden, S., 2013. *The birth of Territory*. University of Chicago Press, Chicago.
- 687 Elden, S., 2019. Territory/territoriality, in: Orum, A., (Ed), *The Wiley-Blackwell Encyclopedia of Urban and Regional Studies*. Wiley-
688 Blackwell, Oxford.
- 689 Escobar, A., 2015. Degrowth, postdevelopment, and transitions: a preliminary conversation. *Sustain Sci* 10, 451–462.
690 <https://doi.org/10.1007/s11625-015-0297-5>
- 691 Feola, G., 2015. Societal transformation in response to global environmental change: A review of emerging concepts. *Ambio* 44, 376–390.
692 <https://doi.org/10.1007/s13280-014-0582-z>
- 693 First Author, 2019. Identity, feeling of belonging and collective action in localized agrifood systems. Example of the Serrano cheese in the
694 Campos de Cima da Serra, Brazil. *Cah. Agric.* 28, 28. <https://doi.org/10.1051/cagri/2019028>

695 First Author, 2020a. Collective action for territorial quality differentiation of cheese in mountain areas: Case studies of the Campos de Cima
696 da Serra in Brazil and the Province of Trento in Italy. PhD thesis. University of Innsbruck, Innsbruck.

697 First Author, 2020b. The quality of territorial governance: an assessment of institutional arrangements. The case of the Serrano cheese
698 production in the Campos de Cima da Serra, Southern Brazil. *Die Erde* 151, 23–36. <https://doi.org/10.12854/erde-2020-424>

699 First Author, 2020c. Study of collective action for cheese differentiation in the province of Trento, Italian Alps. An institutional approach. *J.*
700 *Alpine Res.* 108. <https://doi.org/10.4000/rga.7946>

701 First Author et al., 2019. Collective action in Localized Agrifood Systems: An analysis by the social networks and the proximities. Study of a
702 Serrano cheese producers' association in the Campos de Cima da Serra/Brazil. *J. Rural Stud.* 72: 58-74.
703 <https://doi.org/10.1016/j.jrurstud.2019.10.003>

704 First Author et al., 2020. A Relational Approach to Studying Collective Action in Dairy Cooperatives Producing Mountain Cheeses in the
705 Alps: The Case of the Primiero Cooperative in the Eastern Italian Alps. *Sustainability* 12(11): 4596. <https://doi.org/10.3390/su12114596>

706 First Author et al., submitted (second revision). Joint problem framing: a transdisciplinary methodology for a sustainable future in mountain
707 areas. *Sustain. Sci.*

708 Fischer-Kowalski, M., Haberl, H., 2007. Socioecological transitions and global change: Trajectories of social metabolism and land use.
709 Edward Elgar, Cheltenham.

710 François, H., Hirczak, M., Senil, N., 2013. De la ressource à la trajectoire : quelles stratégies de développement territorial ? *Geogr. Econ.*
711 *Soc.* 15, 267–284. <https://doi.org/10.3166/ges.15.267-284>

712 Frantzeskaki, N., van Steenberghe, F., Stedman, R.C., 2018. Sense of place and experimentation in urban sustainability transitions: the
713 Resilience Lab in Carnisse, Rotterdam, The Netherlands. *Sustain Sci* 13, 1045–1059. <https://doi.org/10.1007/s11625-018-0562-5>

714 Geels, F.W., 2002. Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study. *Res.*
715 *Policy* 31, 1257–1274. [https://doi.org/10.1016/S0048-7333\(02\)00062-8](https://doi.org/10.1016/S0048-7333(02)00062-8)

716 Geels, F.W., 2010. Ontologies, socio-technical transitions (to sustainability), and the multi-level perspective. *Res. Policy* 39, 495–510.
717 <https://doi.org/10.1016/j.respol.2010.01.022>

718 Geels, F.W., 2011. The multi-level perspective on sustainability transitions: Responses to seven criticisms. *Environ. Innov. Soc. Transit.*
719 1(1), 24-40, <https://doi.org/10.1016/j.eist.2011.02.002>

720 Geels, F.W., 2019. Socio-technical transitions to sustainability: a review of criticisms and elaborations of the Multi-Level Perspective. *Curr.*
721 *Opin. Env. Sust.* 39, 187-201. <https://doi.org/10.1016/j.cosust.2019.06.009>

722 Girard, S., Landel, P.A., 2020. Interroger la possibilité de transition (agro) écologique territoriale ? Le cas de la vallée de la Drôme Biovallée.
723 *Forum Origine, Diversité, Territoires* : « Transformer les systèmes alimentaires localisés par la consommation et la production durables »,
724 Eurre, France.

- 725 Giraut, F., 2013. Territoire multisitué, complexité territoriale et postmodernité territoriale : des concepts opératoires pour rendre compte des
726 territorialités contemporaines ? *Espace géogr.* 42, 293. <https://doi.org/10.3917/eg.424.0293>
- 727 Glon, E., Pecqueur, B., 2016. *Au cœur des territoires créatifs Proximités et ressources territoriales.* Presses Universitaires de Rennes, Rennes.
- 728 Grin, J., Rotmans, J., Shot, J., 2010. *Transitions to Sustainable Development: New Directions in the Study of Long Term Transformative*
729 *Change.* Routledge, New York & London.
- 730 Gumuchian, H., Pecqueur, B., 2007. *La ressource territoriale.* Economica, Paris.
- 731 Haesbaert, R., Mason-Deese, L., 2020. Territory/ies from a Latin American Perspective. *J. Lat. Am. Geogr.* 19(1): 258-268.
732 <https://doi.org/10.1353/lag.2020.0005>
- 733 Hakimi-Pradels, N., Grison, J.B., Koop, K., Landel, P.A., 2022. Initiatives citoyennes de transition écologique et diffusion : Formes et
734 fonctions de la mise en réseaux territorialisés. *Développement Durable et Territoires 10*, special issue "Expérimentations de transition
735 écologique".
- 736 Halvorsen, S., 2019. Decolonising territory: dialogues with Latin American knowledges and grassroots strategies. *Prog. Hum. Geogr.* 43(5):
737 790–814. <https://doi.org/10.1177/0309132518777623>
- 738 Hansen, T., Coenen, L., 2015. The geography of sustainability transitions: Review, synthesis and reflections on an emergent research field.
739 *Environ. Innov. Soc. Transit.* 17, 92–109. <https://doi.org/10.1016/j.eist.2014.11.001>
- 740 Houdart, M., 2021. La contribution des associations de soutien aux Monnaies locales complémentaires à la territorialisation de
741 l'alimentation. Une illustration à l'échelle du Puy-de-Dôme, France. *Géocarrefour* 95. <https://doi.org/10.4000/geocarrefour.17103>
- 742 Huguenin, A., 2017. Transition énergétique et territoire : une approche par le « milieuvaluateur ». *Geogr. Econ. Soc.* 19, 33–53.
743 <https://doi.org/10.3166/ges.19.2017.0002>
- 744 IPCC, 2021. Summary for Policymakers, in: Masson-Delmotte, V., Zhai, P., Pirani, A., Connors, S.L., Péan, P., Berger, S., Caud, N., Chen,
745 Y., Goldfarb, L., Gomis, M.I., Huang, M., Leitzell, K., Lonnoy, E., Matthews, J.B.R., Maycock, T.K., Waterfield, T., Yelekçi, O., Yu, R.,
746 Zhou, U., (Eds.), *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the*
747 *Intergovernmental Panel on Climate Change.* Cambridge University Press, Cambridge. In Press.
- 748 Jessop, B., Brenner, N., Jones, M., 2008. Theorizing Sociospatial Relations. *Environ. Plan. D: Soc. Space* 26(3), 389-401.
749 <https://doi.org/10.1068/d9107>
- 750 Kebir, L., Crevoisier, O., 2007. Resources development and actors coordination: what role for innovative milieus? *Int. J. Entrep. Innov.*
751 *Manag.*, 7(2/3/4/5), 204-222. <http://dx.doi.org/10.1504/IJEIM.2007.012882>
- 752 Kebir L., Crevoisier O., Costa, P., Peyrache-Gadeau, V., 2017. *Sustainable Innovation and Regional Development: Rethinking Innovative*
753 *Milieus.* Edward Elgar Publishing, Cheltenham.

754 Kemp, R., Loorbach, D., 2006. Transition management: a reflexive governance approach, in: Voss, J., Bauknecht D. Kemp, R., (Eds.),
755 Reflexive Governance for Sustainable Development. Edward Elgar, Cheltenham, pp. 103-130.

756 Köhler, J., Geels, F.W., Kern, F., Markard, J., Onsongo, E., Wieczorek, A., Alkemade, F., Avelino, F., Bergek, A., Boons, F., Fünfschilling,
757 L., Hess, D., Holtz, G., Hyysalo, S., Jenkins, K., Kivimaa, P., Martiskainen, M., McMeekin, A., Mühlemeier, M.S., Nykvist, B., Pel, B.,
758 Raven, R., Rohrer, H., Sandén, B., Schot, J., Sovacool, B., Turnheim, B., Welch, D., Wells, P., 2019. An agenda for sustainability
759 transitions research: State of the art and future directions. *Environ. Innov. Soc. Transit.* 31, 1–32. <https://doi.org/10.1016/j.eist.2019.01.004>

760 Koop, K., 2014. Conventional or alternative development? Varying meanings and purposes of territorial rural development as a strategy for
761 the Global South. *Geogr. Helv.*, 69, 271–280. <https://doi.org/10.5194/gh-69-271-2014>

762 Koop, 2021. *Changer le monde, changer de mondes. Pour une géographie des transformations sociétales par le bas. Habilitation à Diriger des*
763 *Recherches*, University Grenoble-Alpes, Grenoble.

764 Lamine, C., 2011. Transition pathways towards a robust ecologization of agriculture and the need for system redesign. Cases from organic
765 farming and IPM, *J. Rural Stud.* 27(2), 209-219, <https://doi.org/10.1016/j.jrurstud.2011.02.001>.

766 Lamine, C., Garçon, L., Brunori, G., 2019. Territorial agrifood systems: A Franco-Italian contribution to the debates over alternative food
767 networks in rural areas. *J. Rural Stud.* 68, 159-170, <https://doi.org/10.1016/j.jrurstud.2018.11.007>

768 Landel, P.A., Koop, K., 2018. Quand l'innovation sociale change la dynamique des territoires de montagne, in: Fourny, M.C. (Ed.),
769 *Montagnes en mouvements*. Presses Universitaires de Grenoble, Grenoble, pp. 21–43.

770 Lardon, S., Piveteau, V., 2005. Méthodologie de diagnostic pour le projet de territoire : une approche par les modèles spatiaux », *Géocarrefour* 80(2). <https://doi.org/10.4000/geocarrefour.980>

771

772 Latour, B., 2017. *Où atterrir ? La Découverte*, Paris.

773 Leloup, F., Moyart, L., Pecqueur, B., 2005. La gouvernance territoriale comme nouveau mode de coordination territoriale ? *Géogr. Eco. Soc.*
774 7, 321–331. <https://doi.org/10.3166/ges.7.321-331>

775 Levin, K., Cashore, B., Bernstein, S., Auld, G., 2012. Overcoming the tragedy of super wicked problems: constraining our future selves to
776 ameliorate global climate change. *Policy Sci* 45, 123–152. <https://doi.org/10.1007/s11077-012-9151-0>

777 Lévy J., Lussault M., 2003. *Dictionnaire de la géographie et de l'espace des sociétés*. Belin, Paris, p. 907-911.

778 Longhurst, N., 2013. The Emergence of an Alternative Milieu: Conceptualising the Nature of Alternative Places. *Environ Plan A* 45, 2100–
779 2119. <https://doi.org/10.1068/a45487>

780 Longhurst, N., 2015. Towards an 'alternative' geography of innovation: Alternative milieu, socio-cognitive protection and sustainability
781 experimentation. *Environ. Innov. Soc. Transit.* 17, 183–198. <https://doi.org/10.1016/j.eist.2014.12.001>

782 Loorbach, D., Rotmans, J., 2010. The practice of transition management: Examples and lessons from four distinct cases. *Futures* 42, 237–
783 246. <https://doi.org/10.1016/j.futures.2009.11.009>

- 784 Loorbach, D., Frantzeskaki, N., Lijnis Huffenreuter, R., 2015. Transition Management: Taking Stock from Governance Experimentation.
785 JCC 58, 48-66. <https://doi.org/10.9774/GLEAF.4700.2015.ju.00008>
- 786 Loorbach, D., Wittmayer, J., Avelino, F., von Wirth, T., Frantzeskaki, N., 2020. Transformative innovation and translocal diffusion. *Environ.
787 Innov. Soc. Transit.* 35, 251–260. <https://doi.org/10.1016/j.eist.2020.01.009>
- 788 Lopez, E., Muchnik, J., 1997. *Petites entreprises et grands enjeux: Le développement agroalimentaire local.* L'Harmattan, Paris.
- 789 Hölscher, K., Wittmayer, J., Avelino, F., Giezen, M., 2019. Opening up the transition arena: An analysis of (dis)empowerment of civil
790 society actors in transition management in cities. *Technol. Forecast. Soc. Change* 145, 176-185.
791 <https://doi.org/10.1016/j.techfore.2017.05.004>
- 792 Madelrieux, S., Buclet, N., Lescoat, P., Moraine, M., 2017. Écologie et économie des interactions entre filières agricoles et territoire : quels
793 concepts et cadre d'analyse ? *Cah. Agric.* 26 (2), 24001. <https://doi.org/10.1051/cagri/2017013>
- 794 Marston, S.A., 2000. The social construction of scale. *Prog. Hum. Geogr.* 24, 219–242. <https://doi.org/10.1191/030913200674086272>
- 795 MC Farlane, C., 2009. Translocal assemblages: Space, power and social movements. *Geoforum* 40(4), 561-567.
796 <https://doi.org/10.1016/j.geoforum.2009.05.003>
- 797 Melé, P., 2008. Conflits et controverses : de nouvelles scènes de production territoriale ? in: Garat, I., Séchet, R., Zeneidi, D., (Eds.), *Espaces
798 en (trans)action*, Presses Universitaires de Grenoble, Grenoble, pp. 239-250
- 799 Muchnik, J., Sanz Cañada, J., Torres Salcido, G., 2008. Systèmes agroalimentaires localisés : état des recherches et perspectives. *Cah. Agric.*
800 17, 513–519. <https://doi.org/10.1684/agr.2008.0251>
- 801 Murphy, A.B., 2010. Identity and Territory. *Geopolitics* 15, 769 – 772. <https://doi.org/10.1080/14650041003717525>
- 802 Murphy, J.T., 2015. Human geography and socio-technical transition studies: promising intersections, *Environ. Innov. Soc. Trans.* 17, 73–91,
803 <https://doi.org/10.1016/j.eist.2015.03.00>
- 804 Naess, A. 1986. The deep ecology movement. *Philos. Inq.* 3, 10-31. <https://doi.org/10.5840/philly198681/22>
- 805 O'Brien, K., 2012. Global environmental change II: From adaptation to deliberate transformation. *Prog. Hum. Geogr.* 36, 667–676.
806 <https://doi.org/10.1177/0309132511425767>
- 807 Olsson, P., Galaz, V., Boonstra, W.J., 2014. Sustainability transformations: a resilience perspective. *Ecol. Soc.* 19, 1.
808 <https://doi.org/10.5751/ES-06799-190401>
- 809 Ostrom, E., 1990. *Governing the Commons: The Evolution of Institutions for Collective Action.* Cambridge University Press, Cambridge.
- 810 Paasi, A. 2009: Bounded spaces in a 'borderless world': border studies, power and the anatomy of territory. *Journal of Power* 2(2), 213 –
811 234. <https://doi.org/10.1080/17540290903064275>

- 812 Pachoud, C., 2021. Territorialization of Public Action and Mountain Pastoral Areas—Case Study of the Territorial Pastoral Plans of the
813 Rhône-Alpes Region, France. *Sustainability* 13, 8014. <https://doi.org/10.3390/su13148014>
- 814 Painter, J. 2009. Territoire et réseau : une fausse dichotomie ? in: Vanier, M. (Ed.), *Territoires, territorialité, territorialisation: controverses et*
815 *perspectives*. Presses Universitaires de Rennes, Rennes, pp. 57-66.
- 816 Patterson, J., Schulz, K., Vervoort, J., van der Hel, S., Widerberg, O., Adler, C., Hurlbert, M., Anderton, K., Sethi, M., Barau, A., 2017.
817 Exploring the governance and politics of transformations towards sustainability. *Environ. Innov. Soc. Transit.* 24, 1–16.
818 <https://doi.org/10.1016/j.eist.2016.09.001>
- 819 Pecqueur, B., 2006. Le tournant territorial de l'économie globale. *Espaces Soc.* 124-125, 17–32.
- 820 Pierce, J., Martin, D.G., Murphy, J.T., 2011. Relational place-making: the networked politics of place: Relational place-making. *Trans. Inst.*
821 *Br. Geogr.* 36, 54–70. <https://doi.org/10.1111/j.1475-5661.2010.00411.x>
- 822 Raffestin, C., 1982. Remarques sur les notions d'espaces, de territoire et de territorialité, *Espace Soc.* 41, 167-171.
- 823 Raffestin, C., 1986. Écogénèse territoriale et territorialité, in: Auriac, F., Brunet, R., (Eds.), *L'espace. Jeux et enjeux*, Bayard, Paris, p. 175-
824 185. Raven, R., Schot, J., Berkhout, F., 2012. Space and scale in socio-technical transitions. *Environ. Innov. Soc. Transit.* 4, 63–78.
825 <https://doi.org/10.1016/j.eist.2012.08.001>
- 826 Rey-Valette, H., Chia, E., Soulard, C., Mathé, S., Michel, L., 2010. Innovations et gouvernance territoriale: une analyse par les dispositifs.
827 ISDA 2010. *Innovation and Sustainable Development in Agriculture and Food*, Montpellier, France.
- 828 Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F.S., Lambin, E.F., Lenton, T.M., Scheffer, M., Folke, C., Schellnhuber, H.J.,
829 Nykvist, B., de Wit, C.A., Hughes, T., van der Leeuw, S., Rodhe, H., Sörlin, S., Snyder, P.K., Costanza, R., Svedin, U., Falkenmark, M.,
830 Karlberg, L., Corell, R.W., Fabry, V.J., Hansen, J., Walker, B., Liverman, D., Richardson, K., Crutzen, P., Foley, J.A., 2009. A safe
831 operating space for humanity. *Nature* 461, 472–475. <https://doi.org/10.1038/461472a>
- 832 Schmid, B., 2020. *Making Transformative Geographies. Lessons from Stuttgart's Community Economy*. Transcript, Bielefeld.
- 833 Schutter, O.D., Bui, S., Cassiers, I., Dedeurwaerdere, T., Galand, B., Jeanmart, H., 2016. Construire la transition par l'innovation locale : le
834 cas de la vallée de la Drôme. *LPTransition Working Paper Series 2016-1*, Louvain-la-Neuve.
- 835 Stotten, R., Schermer, M., Wilson, G.A., 2021. Lock-ins and community resilience: Two contrasting development pathways in the Austrian
836 Alps. *J. Rural Stud.* 84, 124–133. <https://doi.org/10.1016/j.jrurstud.2021.04.001>
- 837 Strambach, S., Pflitsch, G., 2018. Micro-dynamics in regional transition paths to sustainability—insights from the Augsburg region. *Appl.*
838 *Geogr.* 90, 296–307. <https://doi.org/10.1016/j.apgeog.2017.04.012>
- 839 Strambach, S., Pflitsch, G., 2020. Transition topology: Capturing institutional dynamics in regional development paths to sustainability. *Res*
840 *Policy* 49, 104006. <https://doi.org/10.1016/j.respol.2020.104006>
- 841 Torre, A., Beuret, J.-E., 2012. *Proximités territoriales*. Economica, Paris.

- 842 Truffer, B., Coenen, L., 2012. Environmental Innovation and Sustainability Transitions in Regional Studies. *Reg. Stud.* 46, 1–21.
- 843 <https://doi.org/10.1080/00343404.2012.646164>
- 844 Truffer, B., Murphy, J. T., Raven, R., 2015. The geography of sustainability transitions: contours of an emerging theme. *Environ. Innov. Soc. Transit.* 17, 63-72. <https://doi.org/10.1016/j.eist.2015.07.004>
- 845
- 846 Vanier, M., 2009. Territoires, territorialité, territorialisation, Controverses et perspectives. Presses Universitaires de Rennes, Rennes.
- 847 Whatmore, S., 2006. Materialist returns: practising cultural geography in and for a more-than-human world. *Cult. Geogr.* 13(4):600-609.
- 848 <https://doi.org/10.1191/1474474006cgj377oa>
- 849 Westley, F., Antadze, N., Riddell, D.J., Robinson, K., Geobey, S., 2014. Five Configurations for Scaling Up Social Innovation: Case
- 850 Examples of non-profit organizations from Canada. *J. Appl. Behav. Sci.* 50, 234–260. <https://doi.org/10.1177/0021886314532945>
- 851 Wittmayer, J.M., Backhaus, J., Avelino, F., Pel, B., Strasser, T., Kunze, I., Zuijderwijk, L., 2019. Narratives of change: How social
- 852 innovation initiatives construct societal transformation. *Futures* 112, 102433. <https://doi.org/10.1016/j.futures.2019.06.005>
- 853 Wright, S., 2015. More-than-human, emergent belongings: A weak theory approach. *Prog. Hum. Geogr.* 39(4):391-411.
- 854 <https://doi.org/10.1177/0309132514537132>
- 855 Zibechi, R., 2012. Territories in Resistance: A Cartography of Latin American Social Movements. AK Press, Oakland.