



Trinity of change agency, regional development paths and opportunity spaces

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Abstract

The study of regional growth paths is a key theme in economic geography and of elemental interest for regional development. This paper addresses the interplay between path-dependent, structural forces and the construction and utilization of opportunities through agentic processes. Extending the evolutionary framework, it is argued that not only history but also perceived futures influence agentic processes in the present and thus shape regional development paths. The paper discusses the relevance and interdependencies of three types of agency with distinct theoretical roots, namely Schumpeterian innovative entrepreneurship, institutional entrepreneurship and place-based leadership, as main drivers of regional structural change.

Keywords

agency, evolutionary theory, opportunity space, path-dependency, regional development, regional growth, regional structural change

1 Introduction

Increasing disparities between the main urban centers and more peripheral regions create challenges for our societies (OECD, 2016; EC, 2017; Iammarino et al., 2017). Fewer, less varied and less qualified jobs are offered in the periphery. This triggers reallocation of (particularly skilled) labor towards main urban centers and ongoing depopulation of more peripheral regions. The main cause for the growing disparities is that economic development increasingly depends on knowledge-intensive activities, which thrive in metropolitan areas due to agglomeration economies, skill matching and knowledge spillovers. In contrast, more

peripheral regions as well as regions that are specialized in traditional industries often struggle to find their place in the modern economy.

Consequently, regions, defined as functional territorial contexts (Boschma, 2004),¹ offer varying preconditions to compete, innovate, and stimulate economic growth. Yet, after taking account of preconditions such as industrial

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structure, the size of the region, capital and labor endowments and infrastructure, a large proportion of regional growth remains unexplained (Rodríguez-Pose, 2013). In other words, some regions grow significantly more than could be expected, given their preconditions, while the opposite is true for other regions. Taking this as a point of departure, the paper contributes theoretically and conceptually to addressing the following fundamental research question: *Why do some regions grow more (or less) than others with similar structural preconditions?*

This question goes beyond the recent debate on economic diversification and regional industrial path development as it emphasizes both the construction and realization of development opportunities. In economic geography, two main theoretical traditions have been mobilized, namely evolutionary and institutional theory, to tackle new path development. Evolutionary theories ‘must be *dynamical*; they must deal with *irreversible* processes; and they must cover the generation and impact of *novelty* as the ultimate source of self-transformation’ (Boschma and Martin, 2007, emphasis original: 537). Evolutionary theories foreground ‘path dependent processes, in which previous events affect the probability of future events to occur’ (Boschma and Frenken, 2006: 280ff). The continuities of the past include individuals’ skills and knowledge, organizational routines, network interdependencies between individuals and organizations, and institutions (Grillitsch and Rekers, 2016). These properties are rigid, meaning it takes time and effort to change them. From an evolutionary account, novelty is introduced through innovation, which, however, is most likely in related fields (Frenken et al., 2007), thus creating a path-dependency in the process of self-transformation. Recently, proponents of evolutionary economic theory have also acknowledged that self-transformation may be the result of unrelated diversification (Boschma et al., 2017). Unrelated diversification is less likely but may have a greater transformative

power. Evolutionary theory suggests that historically grown structural preconditions produce probabilities for certain future paths. Such a probabilistic account is, however, ill-equipped to explain the actions of individual agents or groups of them in particular places aimed at constructing or realizing development opportunities. Notwithstanding some exceptions (Dawley, 2014; Bristow and Healy, 2014), the evolutionary tradition in economic geography is largely ignorant about micro-level explanations for why new growth paths emergence in some regions but not in others despite similar preconditions (Boschma, 2017).

A similar shortcoming can be identified in studies that are strongly anchored in institutional theory. Studies on varieties of capitalism and national innovation systems explain differences in economic trajectories, competitiveness and innovativeness with variations in national institutions (Hall and Soskice, 2001; Lundvall, 1992; Nelson, 1993; Freeman, 1995). At the regional level, the institutional tradition has probably received most traction in the work on regional innovation systems. Accordingly, region-specific formal and informal institutions as well as the embedding of the region in a multi-scalar institutional architecture set strong preconditions for innovation and thus regional development opportunities (Cooke and Morgan, 1994; Asheim and Isaksen, 1997; Doloreux and Parto, 2005; Tödtling and Trippel, 2005; Gertler, 2010; Hassink, 2010). Still, these studies provide limited insights into the micro-level processes that shape new path development (Asheim et al., 2016; Uyarra et al., 2017). There is a dearth of knowledge about what actors do to create and exploit opportunities in given contexts, why they do so in some places and not in others, and why the effects of such efforts differ between apparently similar places.

Consequently, against the backdrop of the more fundamental theoretical debate on structure and agency, the blind spot is the role of agency and its relation to structure. The

theoretical debate on structure and agency has struggled with the dual nature of structure and agency for a long time. Giddens (2007 [1984]) proposes a dualism where one becomes meaningless without the other. Giddens argues that agency is always contextual and thereby anchored in time and space. Due to this anchoring of agency in time and space, his work has also reached human geographers (Dyck and Kearns, 2006). Even though Giddens argues for a continual interplay of agency and structure in theory, his methodological approach of bracketing either agency or structure in empirical work has been criticized (Jessop, 2001). This implies, for instance, that an empirical focus on agency may assume structural conditions as given. In contrast, Jessop (2001) suggests a relational approach with the aim 'to examine structure in relation to action and action in relation to structure, rather than bracketing one of them' (p. 1223). Such a relational approach gives credit to the emergent nature of structure and puts emphasis on agents' varying capabilities, resources and powers (Gregson, 2005; Coe and Jordhus-Lier, 2011), and potentially links back to explanations of uneven development across space by explicitly focusing on structures of power (Faulconbridge, 2012: 735).

Giddens (1984) contrasts functionalism and structuralism with hermeneutics and interpretative sociology. While the former gives primacy to structure, the latter zooms in on the subjective experience – i.e. on agency. He notably relates functionalism and structuralism to system and evolutionary theories, which – according to his analysis – suffer from a poor understanding of agency. As mentioned before, in the current debate on regional path development, evolutionary and institutional theory are prominent, while there is no agency-focused debate with the same weight as in hermeneutics and interpretative sociology. However, there are accounts of different types of agency in geography, based on different theoretical traditions, which have not been consolidated so far.

Giddens' work has been criticized (Jessop, 2001; Coe and Jordhus-Lier, 2011), but the need to theorize and conceptualize the relation between structure and agency remains.

Our approach differs from that of Giddens as it is more concrete, focusing on the emergence of regional growth paths. To some extent, our approach also differs from studies seeking to analyze 'modalities of power', i.e. the many forms of social power constructed and exercised to empower certain social groups to exploit economic opportunities while disempowering others (Allen, 2003). We acknowledge the importance of structures of power and related spatial disparities (Sunley, 2008) but investigate conceptually how actors influence path development. Our approach is explicitly dealing with 'the ways actors marshal and exercise resources as part of attempts to shape the behaviour of others and in the process gain economic advantage' (Faulconbridge, 2012: 735).

The main objective of the paper is to propose a holistic conceptual framework for the analysis of agency in emerging regional growth paths. Regional paths emerge due to the intertwining of a whole range of actions, and intended and unintended results of them (Dawley, 2014; Karnøe and Garud, 2012; Simmie, 2012; Garud and Karnøe, 2003), yet such a holistic framework is missing. It is argued that three types of agency, originating in different fields of literature, are essential for regional path development. These are Schumpeterian innovative entrepreneurship rooted in the entrepreneurship literature, institutional entrepreneurship resting on institutional theory, and place-based leadership developed in the city and regional development literature but being inspired by the broader leadership literature. The discussion unfolds how the three types of agency – separately and in combination – contribute to the emergence of regional growth paths. Arguments are advanced why and how the three types of agency condition, call for, and necessitate each other, thereby

constituting a trinity of change agency that is essential for shaping regional growth paths.

Section II.1 articulates how the rather abstract notion of agency is mobilized to explain the emergence of regional growth paths. Then, the relevance and contribution of Schumpeterian innovative entrepreneurship, institutional entrepreneurship, and place-based leadership are explored in sections II.2, II.3 and II.4. In Section III, we return to structure by relating agency to the time-dynamic structural preconditions agents face in specific places. Section IV discusses how to approach agency in empirical studies and Section V concludes the paper.

II Trinity of change agency: Three types of agency driving regional path development

I The concept of trinity of change agency

In the *Dictionary of Human Geography*, human agency is defined as ‘the ability of people to act, usually regarded as emerging from consciously held intentions, and as resulting in observable effects in the human world’ (Gregory et al., 2009). In human geography, we also find accounts about ‘agency of things’. Gregson (2005), for instance, discusses the effects of a virus (foot and mouth disease in the UK) and the effects of the 9/11 terror attack. Concentrating our attention solely on human agency has important implications for the vocabulary and conceptual focus we are suggesting. For instance, things like oil resources can – in combination with demand for oil – produce important effects, such as the growth of the oil industry in Norway and the emergence of new regional growth paths (thus one could talk about the agency of oil resources). While such narratives are to be welcomed, for the purpose of developing a vocabulary and related conceptual frames both for empirical studies and policy purposes, we, as said, limit the use of the term agency to human only; for instance, how oil

resources are intentionally used by specific actors (or groups of them) for specific purposes such as creating income and jobs would be of interest to us.

Human agency refers to intentional, purposive and meaningful actions, and the intended and unintended consequences of such actions. Even though intentionality plays an important role for the emergence of agency, this does not imply that the evolution of regional paths can be attributed to intentional actions and purposive effects (Lukes, 1986). When aiming to shape path development, as Sotarauta (2016) indicates, agents are confronted with the intentions of many other agents internal and external to a region, and thus they continuously face a series of emergent forces that are beyond their control. Intentional actions of many cause effects in a region that no single actor purposively pushes for. A regional growth path can hence be seen as the nexus of intentional, purposive and meaningful actions of many actors, and the intended and unintended consequences of these actions.

This article is not concerned with any actions but those of relevance for the emergence of regional growth paths, and in particular actions aiming to break from existing patterns and work towards the establishment of new ones. Likewise, Coe and Jordhus-Lier (2011) distinguish transformative agency from reproductive agency maintaining existing structures. In relation to the emergence of regional growth paths, we suggest that Schumpeterian innovative entrepreneurship, institutional entrepreneurship, and place-based leadership are the three fundamental and conceptually distinct types of transformative agency. They form an integrative and holistic framework – the trinity of change agency.

First, innovative entrepreneurship is a crucial engine of change (Shane and Venkataraman, 2000; Schumpeter, 1911) because it is the source for path-breaking innovations triggering new industrial specializations and the transformation of places (Foray et al., 2009; Feldman,

2014; Grillitsch, 2018) Second, new industrial growth paths often require institutional changes to be made possible to begin with (Sotarauta and Suvinen, 2018; Granovetter, 2005; Morgan, 2016), and therefore risk-taking and opportunity oriented institutional entrepreneurship is essential as a second type of transformative agency. Third, as the emergence of new paths is a multi-actor construction – contributed to and exploited by many actors – place-based leadership is important to orchestrate actions and to pool competencies, powers and resources to benefit both the actors' individual objectives and a region more broadly (Sotarauta, 2016; Gibney et al., 2009).

In the field of economics (but later mainly mobilized in the literature on entrepreneurship and innovation), Joseph Schumpeter (1911) was (probably) the first who explicitly singled out such path-breaking economic actions as willful attempts to realize novel combinations of knowledge and resources coupled with the search for a not-yet-realized potential. In other words, actions lying at the heart of the notion of Schumpeterian innovative entrepreneurship. Economic actions are, however, not isolated from other spheres of social life but deeply embedded in institutions (Granovetter, 1985; Nelson 1998). Institutions, which in very generic terms can be defined as the rules of the game, have been shown to influence the innovativeness and competitiveness of countries and regions (Gertler, 2010; Rodríguez-Pose, 2013; Cooke and Morgan, 1994). Actions that are directed towards transforming existing or creating new institutions are relevant for the emergence of regional growth paths because they shape preconditions for Schumpeterian innovative entrepreneurship and influence the diffusion and growth of new paths. Such actions define institutional entrepreneurship (Battilana et al., 2009) – the second type of agency included in the trinity of change agency.

We refer to institutional entrepreneurship in contrast to the more generic notion of

institutional work (Lawrence et al., 2009). Institutional work includes actions aiming at reproducing or strengthening the status quo while institutional entrepreneurship by definition requires the intention of bringing about change. It is about seeing the opportunities to change institutions and taking risks in doing so. Innovative and institutional entrepreneurship are conceptually distinct even though often intertwined (Grillitsch, 2018). This intertwining crystallizes, for instance, in Saxenian and Sabel's (2008) narrative about the development of the semi-conductor industry in Taiwan, where institutional entrepreneurship was the turning point for the emergence of the new growth path. The adaptation of Silicon Valley's venture capital system to the local context created the preconditions for successful innovative entrepreneurship.

The emergence of regional growth paths is typically not associated with only one actor (exceptions may prove the rule, such as the role of Ingvar Kamprad in growing IKEA in Älmhult, Sweden) but the interplay of many (Dawley, 2014; Bristow and Healy, 2014). As Garud and Karnøe (2003) maintain, agency is distributed and embedded; a variety of actors with their very specific frames and roots in different professions, industries, and sectors engage in the process of emerging growth paths. Regional path development is also a process of mobilization, coordination, and advocating for new paths (Mackinnon et al., 2018). Therefore, we introduce place-based leadership as the third element in the trinity of change agency concept. Place-based leadership captures actions that aim at transforming particular places by pooling competencies, powers and resources to benefit both agents' individual objectives and a region more broadly (Sotarauta, 2016; Gibney et al., 2009). For instance, the possibilities for firms to innovate and grow depend on the collective resources provided regionally. The lack of important resources may be a substantial barrier for the development of new paths, may motivate

Schumpeterian innovative entrepreneurs to relocate, or – to the contrary – engage in place-based leadership to build up the required resources.

We argue that micro-level processes related to regional path emergence are best understood as an interplay between the three types of transformative agency. Feldman, Francis, and Bercovitz (2005) describe a case where entrepreneurs actively engaged in creating a cluster with local development officials – in our words, the interplay between innovative entrepreneurship and place-based leadership shaped the emergence of a new regional growth path. Lacking one of the three types of agency is expected to be a hindrance for the emergence of new growth paths. Sotarauta and Heinonen (2016) show how institutional change created the pre-conditions for the emergence of a regional growth path in regenerative medicine in Tampere, Finland, which, however, has not properly taken off due to a lack of innovative entrepreneurship (there is a lack of entrepreneurially-oriented people, and thus also business models and products creating value from this new opportunity). The three types of agency are thus identified through intentional, purposive and meaningful actions that are directed towards creating a change to the economy, to institutions, to places.

Actions are performed by agents – individuals or groups of them. This is an important conceptual stance because we want to contribute to the understanding of the emergence of growth paths from the bottom, the micro-level. The obvious next question is how to take into account organizations such as firms, universities, or public agencies. We suggest dealing with this in correspondence with structure-agency theories that foreground the relational and conditional properties of agency (Jessop, 2001; Coe and Jordhus-Lier, 2011; Grillitsch, 2018). Accordingly, not all agents have the same abilities and power to cause an effect by their own actions. Agency depends on, and is

conditioned by, agents' positions in society, and hence organizations can be approached as institutionalized structures that by themselves do not produce intentional, purposive and meaningful actions – human individuals do. While we hope for a true micro-level perspective, this does not rule out organizational agency. Organizational routines and resources as well as enacted functions and goals imply that individuals occupying certain positions need to be seen in their respective organizational contexts. Organizations operate as legal entities and, as such, produce actions that affect regional growth paths. Moreover, in the empirical analysis of path development, it may be a challenge to carve out the role of individuals from that of informal groups, networks or organizations. Consequently, we acknowledge that empirical studies focusing on agency may also be conducted at a group or organizational level.

The trinity of change agency can be conceptually distinguished from other types of agency. In any region, there will be agents who pursue intentional, purposive, and meaningful actions within existing growth paths. Such actions include, among others, the regular purchase, sales, and consumption of goods as well as the continuation of cluster policies aimed at strengthening existing industrial specializations. In industrial policy, subsidies to keep declining industries alive are typical examples. Moreover, some actors may even work against changes. Grabher (1993) identified political-institutional lock-ins as major obstacle for change.² This refers to a coalition of elites – business people and policy-makers – who intentionally act against a change and for the stabilization of the status quo (see Bellandi et al., 2018). Regional growth paths result from an interplay between transformative types of agency captured by the trinity of change agency and other types of agency that are agnostic, irrelevant or even against change.

As Djelic and Quack (2007) maintain, in complex multi-actor settings, path development

generates emergent qualities; the realized path is never the implementation of individual intentions – it emerges from direct and/or indirect interactions with a set of them. Even though the trinity of change agency identifies intentional actions directed at creating change, these actions have both intended and unintended consequences, which both feed into regional development processes over time. Therefore, agency is best studied in its full complexity by situating it in long evolving development processes and structural changes of places (Sotarauta and Suvinen, 2018). It should also be kept in mind that change is not usually abrupt by nature but new things creep into old structures and systems as well as related institutions (Streeck and Thelen, 2005).

This conceptualization allows us to disentangle overlaps between the different types of transformative agency. For continuity, we refer again to the case study on entrepreneurs creating a cluster by Feldman, Francis, and Bercovitz (2005). The story rests on agents who perform different types of actions with different effects. Some actions are pursued with the intention to introduce path-breaking innovations (innovative entrepreneurship) and some to pool competencies, powers, and resources for the creation of a strong environment for the firms in the cluster to innovate and grow (place-based leadership). These actions are distributed between various human agents. Some agents engage in both innovative entrepreneurship and place-based leadership. However, some entrepreneurs may be less concerned with creating a strong regional milieu (but as an unintended consequence still contribute to it) and some place-based leaders (e.g. politicians or regional policy-makers) may not be engaged in introducing innovations. Furthermore, who is performing which type of action may change over time. New agents may enter the scene, old agents may step down, and agents may engage in different types of actions at different points in time. Actions are linked to agents who differ in

capabilities and power due to their experience, background and position in society.

2 Innovative entrepreneurship

Entrepreneurship is about discovering and exploiting opportunities to create value. Shane and Venkataraman (2000: 219) maintain that entrepreneurship as a field of study is interesting for three reasons:

first [...] entrepreneurship is a mechanism by which society converts technical information into [...] products and services. Second, entrepreneurship is a mechanism through which temporal and spatial inefficiencies in an economy are discovered and mitigated (Kirzner, 1997). Finally, of the different sources of change in a capital society, Schumpeter (1934) isolated entrepreneurially driven innovation in products and processes as the crucial engine driving the change process.

In this paper, we are most interested in the third aspect, innovative entrepreneurship as a driving force for change. Beyond building firms, innovative entrepreneurs are contributing to transforming regional economies and shaping new growth paths (Feldman et al., 2005; Lawton Smith, 2003).

Innovative entrepreneurship in the Schumpeterian sense concerns breaking with existing paths and working towards the establishment of new ones. Hence, it is a process that may originate unexpected regional growth paths and consequently is of major concern for this paper. The unexpectedness of Schumpeterian innovative entrepreneurship lies in the nature of the process where knowledge and resources are combined in novel ways (Schumpeter, 1911), typically across sectors and industries (Strambach and Klement, 2012), and with uncertain outcome. The distinction made by Schumpeter in economic actions that are grounded in past experience as opposed to those that are driven by a belief in future opportunities is essential. The former relies on market and technological knowledge from past interactions, which is

projected into the future. For the latter, the market is not known, might not even exist for a given product, and the technological feasibility is not established. The former actions will promote a continuation along existing industrial paths while the latter are attempts to break with them. An essential trait of Schumpeterian innovative entrepreneurship is therefore the will to realize something new (Schumpeter, 1911), to ‘map unknown terrain, to move where no-one dared venture before’ (Weik, 2011).

According to Shane and Venkataraman (2000), entrepreneurship can be understood as nexus of the presence of opportunities and the presence of individuals that perceive and strive to realize these opportunities. In some locations and time periods, entrepreneurs will find more opportunities than in others depending on the regional industrial composition (Boschma et al., 2017; Grillitsch and Asheim, 2018), the possibilities to tap knowledge and resources from extra-regional sources (Tripl et al., 2017), the support structure for innovation and entrepreneurship (Mason and Brown, 2014; Asheim and Gertler, 2005), as well as the institutional environment supporting or hindering Schumpeterian innovative entrepreneurship (Fritsch and Wyrwich, 2014; Morgan, 2016).

3 Institutional entrepreneurship

Schumpeter’s early theorizing acknowledged the importance of institutions for innovative entrepreneurship in modern capitalism. He saw innovative entrepreneurship as an endogenous development force with a capacity to generate economic growth, if only institutions favored entrepreneurial activity. In line with Mazzucato’s (2015) argument, we acknowledge that institutional influences not only constrain but also make innovative entrepreneurship possible. Earlier studies show that path creation may be explained both by the strong presence of innovative entrepreneurship and institutional factors (Holmen and Fosse, 2017; Dawley, 2014;

Sotarauta and Suvinen, 2018). Therefore, we find it crucial to better understand how institutions change and what actors consciously do to change them so that they would better support innovative entrepreneurship and regional growth. It is institutions that frame what is suitable, and actions deviating from prevailing institutions are often sanctioned, one way or another. Institutions are constraining, enabling and incentivizing structures for change but also objects of change (Soskice, 1999).

In regional development studies, institutions are seen as a set of rules, regulations and constraints, on the one hand, and organizations in the form of economic, political, social and educational bodies, on the other hand (Storper, 1997; Rodríguez-Pose and Storper, 2006). By definition, they are the elements of permanence and stability, as they are fairly immune to change. Institutions are carriers of social practices and routines (David, 1994), and institutional reproduction passes ingredients of the present and past into the future (Martin, 2000). The institutional approach has been criticized for predicating compliance and conformity, and its limited capacity to explain institutional change and thus also regional transformations. Therefore, the concept has been more useful in the analysis of path dependency than path creation. This critique, for its part, has generated increasing interest in the role of agency in institutional change and thus also institutional entrepreneurship (Sotarauta and Pulkkinen, 2011). Therefore, we position the concept of institutional entrepreneurship into the trinity of change agency and approach it as a force molding rules of the game and playing fields for innovative entrepreneurs to surface and succeed.

Institutional entrepreneurs are individuals or groups of individuals but also organizations or groups of organizations that originate change processes contributing to the creation of new institutions and/or transformation of existing ones (Battilana et al., 2009). As Battilana et al. (2009: 67) further say, ‘they are actors who

initiate divergent changes and actively participate in the implementation of them'. Institutional entrepreneurs challenge existing rules and practices and institutionalize the alternative rules and practices they are championing (DiMaggio, 1988).

Broadly speaking, Pacheco et al. (2010) identify two lines of enquiry in the study of institutional entrepreneurship. The first defines institutional entrepreneurs broadly as change agents that do not necessarily have a self-interest in the issues at hand. The focus is essentially on informal and socially embedded institutions; institutionalized practices and belief systems; and the processes of institutionalization and related change strategies. The second line of enquiry, according to Pacheco et al. (2010), sees institutional entrepreneurs as change agents driven by economic motivation and a self-interest. In this thinking, they are profit-seekers and exploiters of economic opportunities. Consequently, the focus is more on formal institutions (property rights, government policy) than informal ones, and thus also on functional and economic pressures, market conditions and transaction costs as well as contractual and self-enforcement strategies (Pacheco et al., 2010). If in the first approach the analytical effort focuses on *processes* of institutionalization, the second one is more interested in the *outcomes* of it. For our efforts to better understand the trinity of change agency in regional growth, both interpretations of institutional entrepreneurship are valid, as innovative entrepreneurs may end up changing institutions with or without economic self-interest.

4 Place-based leadership

Almost as a general rule, various actors participate in regional development efforts with the aim to find something for themselves. They do not leave their own interests, drivers, incentives and overseers behind. Thus, it is far from easy to find a common ground for a collective

development effort in these kinds of situations. Regional development, and related institutional changes, is essentially about sustained and possibly conflicting encounters of various visions of single organizations, individual interests and a whole range of ideas. Contrary to the common assumption, it is notoriously difficult to construct a shared vision providing a heterogeneous bunch of actors with a sense of direction. Conscious efforts to stimulate the emergence of a regional growth path and construct conditions for it require agents who work to determine the direction for change through, with and by other actors, and convene and inspire them.

Studies on place-based leadership aim at identifying the genuine, but often shadowed, processes of influence to better understand

what people actually do to influence other people in these very particular types of settings both formally and informally – openly as well as opaquely – and how they go about doing what they do. It is also about revealing the types of social processes involved in ‘making things happen’ and in ‘getting things done’ (or not getting things done). (Sotarauta et al., 2017: 188)

We find this important as, in the context of regional development, we are called to fill the conceptual and empirical gap between the fallacious heroic leadership discourse and what really happens in regions (the need to go beyond heroic leadership is widely recognized, e.g. Reicher et al., 2005).

In regional development, the capability to orient complex multi-actor processes in an indirect manner is the key for successful efforts to influence the emergence of new paths (MacNeill and Steiner, 2010). Sotarauta and Beer (2017: 212) argue that place-based ‘leaders as individuals, and groups of individuals, tend to possess a greater range and depth of assets – including commitment to advancing the region – than other actors’. As such, place-based leadership comprises varying approaches but is intrinsically concerned with (a) launching

and guiding interactive development work that crosses the many organizational boundaries and professional cultures, and (b) guaranteeing the versatile engagement of various stakeholder groups and helping them to both contribute to and take advantage of development processes and their fruits (Gibney et al., 2009; Collinge et al., 2015).

As Gibney, Copeland, and Murie (2009) stress, place-based leadership of this kind ought to be capable at looking beyond the fugitive and narrow interest of individual actors and thus reach beyond short-termism. Genuine place-based leaders move into interactive leadership spaces and work to find third solutions that reach beyond individual ambitions, intensions and interests. And here, the truly influential actors are capable of drawing the attention of other actors to the strategic issues requiring action (Heifetz, 1994). Of course, to do so, they need to merit an influential (but not always formal) position in the social fabric of place. If the concept of institutional entrepreneurship directs the attention to conscious efforts to change institutions, the concept of place-based leadership is essentially interested in how actors are mobilized and their actions coordinated for stimulating path development.

III Opportunity space for change agency

Granovetter (1985) maintains that when studying agency we may suffer – depending on the scientific tradition – from an over-socialized or under-socialized perspective and suggests the concept of embedded agency to bridge the gap. On our part, we suggest that the concept of opportunity space may prove useful in a study of embedded and reflexive agency. Opportunity space mediates between trinity of change agency and structure, as, in our thinking, actors are embedded in an opportunity space that is specific to a region, industry, and time in question. Furthermore, the concept of opportunity

space captures agents' deliberations about the future. Agents reflect in a strategic manner considering how structures may evolve in the future and considering how their actions might affect this evolution (see also Lagendijk, 2007). The temporal dimension is also captured by Emirbayer and Mische (1998: 963), who define agency as (a) 'action or intervention to produce a particular effect' but also (b) 'a temporally embedded process of social engagement, calling for a strong capacity to interpret past habits and future prospects'. Similarly, Garud, Kumaraswamy, and Karnøe (2010: 770) argue that '[a]ctors mobilize the past not necessarily to repeat or avoid what happened, but, instead, to generate new options. Likewise, people imagine new initiatives for the future which then lead them to mobilize the past in support.' Steen (2016) argues that not only actions but also intentions are future oriented, which is in line with the very notion of entrepreneurship: the perception and intentional realization of opportunities. An opportunity is by definition future oriented, as the notion relates to something that is possible in the future but presently not yet realized. According to the *Oxford Dictionary*, 'opportunity is a time or set of circumstances that makes it possible to do something'. We thus suggest to conceptualize how change agency is related to structure by the time or set of circumstances that make a change possible and call this an opportunity space.

In our understanding, institutional entrepreneurs and place-based leaders often, but not always, work to create such sets of regional structures and circumstances that increase the likelihood of innovative entrepreneurs moving to unknown terrains; they aim to construct opportunity spaces for entrepreneurs. Much of the previous literature has been concerned with promoting existing pathways while only recently the attention has shifted to a wider conceptualization of opportunity spaces for new path development (Grillitsch et al., 2018). The concept of opportunity space builds on earlier

notions on how regional advantage may be constructed by an active policy approach creating strong preconditions for innovative entrepreneurship (Asheim et al., 2011; Tödtling et al., 2013).

Opportunities change over time and differ between places. What is more, the perception of opportunities and the capabilities to realize them vary even between individuals in specific places. These different dimensions of an opportunity space manifest at three levels:

- Time-specific opportunity space: Delineates what is possible given the global stock of knowledge, institutions, and resources at any moment in time.
- Region-specific opportunity space: Defines what is possible considering regional preconditions.
- Agent-specific opportunity space: Captures perceived opportunities and capabilities of individual agents to make a change.

We have argued above that agency is about intentional, purposive and meaningful actions, and the intended and unintended consequences of such actions. Therefore, a micro-level focus is needed to further our understanding of the emergence of regional growth paths. For this reason, we take the agent-specific opportunity space as our first reference point. Saxenian and Sabel (2008) provide a powerful account of the importance of agent-specific opportunity spaces in explaining the emergence of regional growth paths in the global periphery. The authors foreground individual agents – the ‘new Argonauts’ – who move to other places where they develop capabilities and networks, which are – at a later stage – mobilized to shape the development trajectories in their home countries. Taiwan, for instance, became a world leader in the semiconductor industry despite unfavorable structural preconditions. Taiwanese engineers who had migrated to Silicon Valley became a powerful

resource for the emergence of this industry. Path emergence could be traced back to individuals who perceived this opportunity and had the capabilities and power to mobilize the external resources required to realize the opportunity (Saxenian and Sable, 2008).

The agent-specific differences in constraints but also capabilities to produce certain effects are – as previously discussed – strongly related to the networks and position of individual agents in society. In relation to Schumpeterian innovative entrepreneurship, Grillitsch (2018) adds that mobility between positions as well as holding multiple positions are powerful mechanisms that enhance individuals’ capabilities to perceive opportunities and bring about path-breaking innovations (see also Suvinen, 2014). Saxenian and Sabel’s narrative, for instance, builds on individuals that move between positions in different countries and thereby learn and become connected. In more general terms, the differences between individuals as regards perceived opportunities and capabilities to act are to a large extent shaped by the experiences and encounters individuals have had in the past. This is consequently the most direct interpretation of how structures limit but also enable human actions. It allows acknowledging structures of all sort not only relating to profession, education, sector or location but also to more generally discussed structural features such as position in a society, gender, or country of origin.

Past experiences and encounters are influenced by the place where individuals are located. Social embedding at the workplace, through recreational and leisure activities, or other social functions such as childcare and education, contribute to an alignment of perceived opportunities regionally. Localized interactions and learning support the emergence of collective expectations and perceptions of future development opportunities (Steen, 2016; Coenen et al., 2010). Maskell and Malmberg (2007) observe that such processes lead to

spatial myopia, which implies a selective perception of opportunities shared between individuals in a region. This creates a somewhat paradoxical interplay between structure and agency, which can only be resolved if processes are observed over time. On the one hand, change agency is exactly about breaking with existing structures, and thus also with explicitly or implicitly held shared expectations and perceptions. On the other hand, shared expectations and perceptions will change with the emergence of new regional growth paths, and agency might be directed to change shared expectations and perceptions in order to mobilize and pool resources for a new growth path.

While the agent-specific opportunity space establishes the most direct link between structure and agency, regional preconditions are important as they shape the encounters and experiences of agents, and thereby influence agent-specific opportunity spaces. The region-specific opportunity space acknowledges that structural barriers and opportunities for the emergence of new growth paths differ between regions (Grillitsch and Asheim, 2018; Grillitsch and Tripl, 2018) due to a variety of factors such as industry structure, institutional configurations, and regional support systems for innovation and entrepreneurship. As regards industrial structure, regions differ in their degree of specialization and diversity. Regions that are specialized in one industry might find diversification based on related or unrelated variety as the most likely form of new path development because it allows them to reuse their existing competencies in higher-value added activities while avoiding opposition of incumbent firms (Grillitsch and Tripl, 2018). Conversely, diversity is supportive for the creation of completely new industries. These typically require the combination of unrelated knowledge with a high degree of cognitive and institutional distance, which is facilitated by co-location (Boschma, 2005; Strambach and Klement, 2012). In comparison to specialized and diversified regions,

peripheral areas find fewer opportunities for diversification or the creation of completely new growth paths. For peripheral regions it is therefore often most promising to upgrade their position in global production networks or import paths from outside the region (Grillitsch and Tripl, 2018).

While appreciating the regional industrial structure, Tripl, Grillitsch, and Isaksen (2017) argue that the required knowledge for new path development can potentially be accessed from extra-regional sources. Evidence suggests that the combination of regional and international knowledge networks is conducive for firm innovativeness (Tödtling and Grillitsch, 2015). The extent that firms develop global linkages depends, on the one hand, on firm characteristics (Herstad et al., 2014) and, on the other hand, on the position of the region in global production and innovation networks (MacKinnon, 2012). Global linkages may provide opportunities in terms of accessing complementary knowledge or compensating for a lack of knowledge available regionally (Grillitsch and Nilsson, 2015; Chaminade and Plechero, 2015). However, regions can also

become ‘locked-in’ to external networks... controlled by TNCs [transnational corporations]... as is evident from the experiences of branch-plant regions which became over-reliant on relatively low-value production plants, lacking more advanced functions and high-status employment as a result. (MacKinnon 2012: 236)

Institutions are another important factor shaping the opportunity space. Institutions influence innovation and economic activities and thereby the development of the industrial profile of countries (Hall and Gingerich, 2009; Vitols, 2001). Differences in national institutions affect the nature of regional innovation systems, making certain types of new regional industrial path development more likely than others (Asheim and Coenen, 2006; Asheim and Gertler, 2005).

The creation of completely new industries may, for instance, be most likely in a liberal market economy and an entrepreneurial regional innovation system like Silicon Valley. Institutions such as the proverbial entrepreneurial climate have been found to affect the likelihood that perceived opportunities are pursued (Fritsch and Wyrwich, 2014). Furthermore, the extent to which institutions allow for overlaps between different professions, industries and sectors influences the likelihood that unrelated knowledge and resources are combined and in consequence yield structural change and new growth paths (Grillitsch, 2016). Institutions also refer to policy repertoires, which are relatively stable over time and have a substantial influence over whether regions engage in learning and innovation, thereby realizing growth potentials, or remain in economic deadlocks (Morgan, 2016).

Regional support systems for innovative entrepreneurship comprise a number of factors that influence the creation and utilization of economic opportunities (Grillitsch and Asheim, 2018). According to the literature on regional innovation systems (e.g. Asheim and Isaksen, 2002; Cooke et al., 1997; Tödttling and Trippel, 2005) and entrepreneurial eco-systems (e.g. Isenberg, 2011; Mason and Brown, 2014), innovative entrepreneurship partly depends on the provision of regional resources. Besides human capital these resources include universities, research institutes, vocational education and training facilities, finance (and particularly risk finance and smart money), supporting organizations such as cluster organizations, incubators, technology transfer centers, etc. The systemic perspective propagated in this literature suggests that these resources are both created and used by actors who are embedded in a web of local and extra-local networks as well as a socio-institutional context.

The region-specific opportunity space is not only important as a precondition for generating path-breaking innovations but also for stimulating the growth of new paths. New growth paths

need to be anchored in a regional environment (Crevoisier and Jeannerat, 2009). The provision or attraction of resources is especially important for anchoring and growing new paths in peripheral regions (Binz et al., 2016) because otherwise firms may fail to grow or simply relocate (Shearmur, 2016). This calls for a collective mobilization of resources to support the emergence and growth of new paths, i.e. place-based leadership.

The time-specific opportunity space is an abstract notion of what is possible in general with the global stock of knowledge, institutions, and resources. While it is beyond human imagination to perceive everything that would in principle be possible, this notion is of relevance as new opportunities may emerge due to changes in knowledge, institutions, and resources anywhere in the world. For instance, advances in artificial intelligence create new opportunities for Schumpeterian innovative entrepreneurship, and institutional entrepreneurs in many countries and regions work to strengthen selected elements of innovation systems to support the emergence and exploitation of artificial intelligence related opportunities in a specific place. The time-specific opportunity space becomes relevant in the context of regional path emergence typically in connection with the agent-specific opportunity space. This is to say, only if an agent perceives new opportunities that arise due to advances in artificial technology, and only if the agent has the capabilities to set actions towards the realization of these opportunities, the time-specific opportunity space has a bearing for the emergence of regional growth paths. For all this, as we believe, the trinity of change agency is needed.

IV How to approach agency

The kind of approach discussed in this paper locates agency not in the attributes of individual agents but in the relationships connecting agents in opportunity spaces. The emerging property of

regional paths in time and space are at the center of attention. The three forms of agency contribute in their own way to constructing and exploiting opportunity spaces, thereby continuously forming and shaping regional growth trajectories. To understand these kinds of change processes it is important to ask: How do different actors deal with change? What kind of change strategies do they launch, and why? How do different actors perceive opportunities, how have the perceptions changed over time, and how has this motivated actions? What role do the three types of change agency play over time and in different contexts? How do the types of change agency play together? What is the combination of change strategies actors adopt in specific situations at specific times, and what are the intended and unintended consequences? How do they resolve the paradoxical situation in which they aim to change those structures that frame their very actions? How do actors earn/take their positions and what makes them able to act for change? How can actors innovate and renew institutional settings if the very institutional environment they wish to change determines their beliefs and actions? Who are the key actors in different contexts? (cf. Sotarauta and Pulkkinen, 2011)

These questions are far from easy to answer because agency is often shadowed by visible forms of influence such as organizational structures and formal institutions, as well as development programs and plans (Sotarauta, 2016). The difficulty in answering these questions may also be due to the fact that agency is an emergent property of interacting individuals (Bennett et al., 2003), and as such it often is arduous to identify the institutional influencers as well as leaders and their followers, not to mention their relationships (Trickett and Lee, 2010; Huxham and Vangen, 2000). All too often formal authority and institutional power are seen as markers of influential agency, and more hidden and emergent sides of it remain overshadowed. Of course, it is not only easy but also attractive to

focus on influential and visible actors with formal authority and strong social positions. However, understanding the dynamics of concealed ways of influence is as important to influencing regional growth patterns as the formal policies. We rely on a bottom-up view on structures, institutions and agency that complements the dominant top-down view (Grillitsch, 2015; Sotarauta, 2017). One important implication of such a bottom-up view is that empirical studies should not only aim at describing how regional paths evolve but also at unveiling to what extent, why, and how a multitude of actors shaped this evolution. This means that empirical studies – either through collecting narratives or repeated observations over time – need to zoom in also on the ‘subjective’ stories of individuals, and grasp their perceptions, intentions, and change strategies. By adopting a bottom-up view on regional growth and related institutions and agency, we might find out that the significance of structural preconditions shaping path development varies greatly between not only regions but also actors.

Although agency is often approached as formally constituted hierarchical power, in the context of the emergence of regional growth paths, which is, as discussed above, characterized by many kinds of overlaps and distributed power as well as conflicting or mutually supporting policies and ambitions, agency is to be approached from three perspectives: (a) *the process perspective* informs a study on temporal dynamism of path development considering the variegated engagement of different actors over time, (b) *the network perspective* appreciates the distributed and embedded nature of agency by bringing in the fabric of regional and extra-regional social relationships in and beyond specific path development processes, and (c) *the system perspective* focuses on the institutional embeddedness of actors at the regional, national, and global scale that frame path development as well as forms of agency (cf. Sotarauta, 2016; Sotarauta and Pulkkinen, 2011).

V Conclusion

We advance a twofold proposition: (a) some regions grow more than others with similar structural preconditions because of the successful construction and exploitation of *opportunity spaces*; and (b) the *trinity of change agency* explains why some regions are more successful than others in their efforts to construct and exploit such opportunity spaces. The trinity of change agency is a geographical concept as it considers actions that have an effect in particular places, i.e. regions, but simultaneously acknowledges that not all actors are concerned or aware of the spatial effects of their actions.

The proposed framework complements structural analyses with agency-oriented studies informing us about micro level dynamism. It is geared to support future attempts to understand the ways actors work to construct and exploit opportunity spaces, change institutions for new development paths and break from path dependency. It adds analytical leverage to investigate how historical paths constrain and enable the construction and exploitation of opportunity spaces. The concept of trinity of change agency suggests that this is accomplished by identifying the rationales, underpinning change strategies, and consequences of the three forms of agency, thereby understanding how multifaceted agentic processes play together – positively or negatively – in shaping regional futures. A more explicit focus on the trinity of change agency offers a conceptual lens in these efforts by seeking for a balance between structure and agency.

The notion of *opportunity space* extends from the existing structural preconditions to potential futures. It extends from regional preconditions to potential novel combinations of regional and extra-regional knowledge, resources and institutions. Innovative entrepreneurship is seen as an essential form of agency to act upon these perceived opportunities with the strong ambition to making them happen. Innovative entrepreneurship in the Schumpeterian sense implies the will

to move into unknown terrain, to break with existing growth paths. Entrepreneurial opportunities, however, are not distributed evenly across space and time. Some regions in some periods will offer more entrepreneurial opportunities than others. This calls for other forms of agency that are beyond innovative entrepreneurship. Place-based leadership and institutional entrepreneurship are introduced as essential for constructing opportunity spaces and nourishing emerging new growth paths. The *trinity of change agency* is a holistic conceptual framework that is derived by necessity, i.e. theoretical arguments why one form of agency calls for or necessitates the other. Together, they are the shapers of regional growth paths beyond the expected.

This perspective suggests that it would be interesting to identify and study regional growth paths that diverge from what could be expected given the existing industrial composition, regional support structure for innovation and entrepreneurship, and institutional arrangements. It is worth noting that empirical regional growth models hide such diverging growth paths in the residuals, which typically are not discussed further. The argument advanced in this paper is that the diverging growth paths can be interesting conceptually and theoretically, potential showcases of the trinity of change agency. This calls further for an investigation of the agentic processes, their embeddedness in multi-scalar networks and institutional contexts, which are behind shaping regional growth paths. While conceptually the three types of agency are connected, this may manifest in very different forms in different regions, in different times. This ranges from a single individual agent engaging in all three forms of agency to a very distributed form where place-based leaders, institutional entrepreneurs, and innovative entrepreneurs act without direct contact to each other. Such distributed agency, however, should not conceal that actions invisible to the naked

eye may shape opportunity spaces and thereby possible regional futures too.

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Notes

1. We follow Boschma (2004) in defining regions not as administrative units but territorial contexts with a bearing on the behavior and performance of local organizations, which in turn depends on the embeddedness of local actors in place-specific production and innovation networks, competence and knowledge bases, and institutional environments. As this functional embeddedness changes over time and differs between places, regions are no fixed, predefined entities. Instead, the relevant territorial context can only be unveiled empirically.
2. In the literature, lock-ins have been described as a problem for old industrial regions, whereas change would be the solution. It is important to note, however, that the trinity of change agency is not normative. In the current scientific and political debate, it is argued that change is needed to address grand challenges and to sustain prosperity in regions in the wake of technological change and globalization. However, this does not necessarily imply that all change is good.

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