

The Creation of Knowledge: Local Building, Global Accessing and Economic Development – Toward an Agenda

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Version Post-print/accepted manuscript

Citation (published version) Bathelt, H., & Cohendet, P. (2014). The creation of knowledge: Local building, global accessing and economic development—Toward an agenda. *Journal of Economic Geography*, 14(5), 869-882.

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<http://joeg.oxfordjournals.org/content/14/5/869>
[doi: 10.1093/jeg/lbu027].

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June 24, 2014
Word count: ca. 7,200

**The creation of knowledge:
local building, global accessing and economic development –
toward an agenda**

by

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Revised Paper Re-Submitted to the
SPECIAL ISSUE, Journal of Economic Geography 2014 (5)
“Knowledge creation: local building – global accessing”

Editors:

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Abstract

This paper argues that local knowledge building and global (non-local) knowledge accessing practices in economic development are intrinsically interwoven. They generate fundamental feedback loops, which are channeled through and lead to ongoing knowledge circulation. To better understand the nature of the specific mechanisms and conditions underlying these processes, three key areas of research are identified for current and future research. These are related to (i) creative agents and the nature of local creative processes, (ii) community formation and local creativity from ideas to market penetration, and (iii) temporary gatherings as trans-local knowledge platforms.

Keywords: Creation of knowledge, community formation, economic development, local building, global accessing, knowledge ecosystem

JEL classifications: D83, F63, L23, M21, O31, O33, R11

1. Context and introduction

The papers presented in this special issue offer a novel perspective on the dynamics of local knowledge building in association with global knowledge. They aim at deepening a research agenda that goes beyond classical theoretical frameworks, which analyze local/global interactions of knowledge, whether through the lens of cluster theories or through the perspectives of multinational theoretical approaches. Instead, the studies presented in this special issue are characterized by a consistent focus on knowledge flows and knowledge creation in spatial perspective.

First, the type of economic knowledge referred to is closely associated with innovation processes regarding new or improved products, services and their design characteristics and architectures, as well their technological, institutional and market backgrounds (Amin and Cohendet, 2004). Processes which lead to innovation require dynamic knowledge flows about the relevant knowledge structures and practices and their dynamics. The processes by which new developments of ideas and artefacts crystallize are generally referred to as knowledge creation. Creativity, as such, does not just relate to a specific set of industries or professions, but is a crucial part of the innovation process that leads to informed deviations from existing

technological development paths. It should be clear, of course, that the characteristics of such processes of creativity and innovation vary between different sectors and different cultural and institutional environments. The processes are shaped by specific circumstances, which is exactly why constant flows of knowledge and efforts to access and process this knowledge are so decisive. Hence, we argue for the need of a knowledge perspective.

Second, what this research agenda highlights is that the dynamics of knowledge formation at the local level should not be reduced solely to the interaction of firms and other formal entities. While we often relate to the urban or metropolitan context, the ‘local’ should essentially be viewed as an ecosystem where the dynamics of the formation of new ideas and new knowledge resides at the interface between the formal organizations (such as firms or research institutes) and informal organizational structures (i.e. specific communities and other informal groups of actors). We argue that the interaction of firms and organizations with informal groups and communities is at the core of the dynamics of knowledge creation. Within such dynamic ecosystems, firms – be they early-stage start-ups that look for market opportunities or experienced firms that are integrated into global production networks – find opportunities to tap into the cognitive constructs of the relevant local communities. We emphasize that such processes are often at the core of the formation of new knowledge.

Third, the agents, communities and firms engaged in knowledge creation and innovation are – to some degree – embedded in local contexts and their respective cultures. This is particularly important in phases of the production of new knowledge that rely on face-to-face interactions, local validations of ideas, and are highly sensitive to the structure of local context. However, the processes of knowledge creation and innovation shaped by these communities and organizations cannot be reduced to local knowledge pools. They depend on, are constructed by, and are entangled with linkages to knowledge pools located elsewhere. This clearly suggests that local and global (in the sense of non-local) dimensions of knowledge creation are intrinsically interwoven (Amin and Thrift, 1992) and generate fundamental trans-local and cross-national feedback loops, which are channeled through ongoing knowledge circulation processes. When referring to the global scale, we do not imply truly worldwide knowledge flows but relate to knowledge pools that may be located in different localities, regions or countries, or in different combinations of such territories – often associated with substantial uncertainty.

This special issue contributes to the literature on knowledge exchange and knowledge generation in economic geography by suggesting that the dynamics of knowledge creation are in many instances the result of two processes: (i) the formation of new ideas from interactions within local ecosystems and (ii) the local/global linkages between creative processes and creative actors. The papers in this special issue aim at extending two recent conceptualizations in economic geography research. The first one is related to a relational perspective in exploring and understanding global knowledge creation processes by focussing on the interactions between agents, communities, firms and other organizations involved in the governance of economic action (Amin and Cohendet, 2004; Coe et al., 2008; Bathelt and Glückler, 2011). The second one investigates the articulation of local and global exchanges and the formation of knowledge through the building of ‘pipelines’ to relevant, often distant knowledge providers (Bathelt et al., 2004; Owen-Smith and Powell, 2004; Cohendet and Simon, 2007), be it through pre-existing value chain linkages or temporary face-to-face meetings of global communities (Coe et al., 2008; Bathelt and Henn, 2014).

Our approach aims to go beyond some limitations of traditional approaches. First, different streams of cluster theory explain the creation of knowledge as a result of knowledge externalities generated by agglomerations of firms. However, these approaches neither explain the dynamic construction of ideas that goes beyond the level of the firm, nor the specific processes at work. Second, Florida’s (2002) approach of creative cities, which explains knowledge formation as a consequence of attracting individual talents to metropolitan areas, also remains somewhat static and does not capture the underlying knowledge processes. Third, theories of multinational firms, while aiming at understanding the coupling of local and global pools of knowledge, focus on knowledge flows through corporate or value-chain linkages and internal pipelines, while neglecting knowledge creation processes and synergies that derive from interactions between different types of formal and informal settings of individual and collective actors.

To go beyond these limitations requires reconsidering the role of proximity in the formation of local knowledge. In the economic geography literature, there appears to be a general understanding that processes of learning, knowledge creation and diffusion, and innovation are often localized in metropolitan regions and their clusters, and that such proximity is highly beneficial to the regions and clusters in question (Feldman and Audretsch, 1999; Wolfe,

2014). What is less well known, however, is the precise nature of the mechanisms and conditions underlying these processes. Indeed, evidence of such processes is sometimes based on anecdotal observations, extreme cases, or is simply assumed rather than concretely established. In the context of economic geography and related studies, the localized character of learning is often explained by the fact that knowledge is concentrated and embodied in particular people and machines; thus, it is tied to some degree to its local production context (von Hippel, 1974; Storper, 1997; Maskell and Malmberg, 1999; Asheim, 1999; Gertler, 2003).

Such explanations only tell part of the story, however. Processes of knowledge creation and innovation can rarely be reduced to specific local knowledge pools; they depend on, are constructed by and entangled with knowledge flows and linkages to knowledge pools located elsewhere (Amin, 2004). They may be tied to different social networks, different regions and nations, or different cultural contexts (Scott, 1998). From an economic perspective, access to these distributed, partly non-localized and partly non-relational knowledge bases is decisive. It is a prerequisite to the development of unique competencies, understanding new distant markets and introducing innovations to different contexts. In order to generate and maintain competitiveness both at the firm and regional level, it is crucial to identify and acquire appropriate knowledge pools that exist beyond easily accessible ‘comfort zones’. Such knowledge enables firms to reflect on production and innovation decisions, target markets specifically or introduce variation to existing markets.

This special issue aims to dispel the notion of a contradiction between local knowledge building and global knowledge accessing practices. It strongly suggests that the local and global dimensions are intrinsically interlinked. This has been demonstrated in recent research on creative cities and the development of urban knowledge, the connectivity of proximities and knowledge creation, the dynamics of creativity from the emergence of knowledge to its marketization, the role of temporary events as trans-local knowledge platforms, as well as locally-grounded, more permanent local knowledge platforms (Amin and Cohendet, 2004; Florida, 2008; Crevoisier and Jeannerat, 2009; Pratt and Jeffcutt, 2009; Bathelt and Henn, 2014). As Maskell’s (*this issue*, [print page to be added](#)) contribution illustrates, globalization processes require firms to develop trans-local, trans-regional and trans-national connections at a global scale: “While proximity centered research has convincingly demonstrated enhanced opportunities for knowledge based growth and entrepreneurship in certain local economic

systems ... it is increasingly realized that even the most successful of such localities never thrived in splendid isolation but always to some degree relied on invigorating impulses from the outside to remain competitive”. Knowledge based growth is, thus, a product of the dynamic interplay between local and non-local forces.

This finding raises a number of important interrelated questions: How, for instance, can firms that have developed as locally embedded start-ups access remote knowledge and develop linkages to unknown partners at a distance? This can be especially challenging in light of the fact that technological trajectories may take unexpected turns and markets may need combinations of capabilities that are unavailable locally. And, how can firms minimize associated uncertainties in finding appropriate remote knowledge, as well as remote solution providers or knowledge producing partners? Maskell (*this issue*) proposes a basic analytical framework that helps us systematically tackle these challenges, suggesting that firms utilize trade fairs, existing pipelines, ‘crowdsourcing’, and ‘listening posts’ to acquire and use specific knowledge, depending on the context at hand. In addressing the above questions, we aim to contribute to a better understanding of what could be called ‘new spaces of circulation’ (Thrift, 2000) or ‘geographies of knowledge transfers over distance’ (Bathelt and Henn, 2014).

The papers presented in this special issue enable us to highlight some significant directions pursued in key streams of economic geography and related research in recent years. Our discussion pays particular attention to three main themes in this research: creative agents and the nature of local creative processes (section 2); the linkages between creative processes and creative actors from a spatial perspective, which lead to community formation and drive the diffusion and marketization processes of creative ideas (section 3); and, finally, the accessing of distant forms of knowledge by creative local actors via temporary proximity (section 4). We conclude, in section 5, by pointing to the ways in which this special issue contributes to the literature on knowledge exchange and knowledge generation in economic geography.

2. Creative agents and the nature of local creative processes

In most approaches that theorize the formation of new ideas in the localized context of metropolitan regions (e.g. industrial districts, geographical clusters, regional and other spatial systems of innovation, creative milieus, proximity approaches), the main unit of analysis is the firm. The dominant view is that regional agglomerations of firms trigger the formation of

knowledge externalities, which stimulate interactive learning and innovation, and encourage the establishment of region-specific paths of knowledge and technology development at the surface of a broader institutional system level (e.g. Maskell and Malmberg, 1999; Lundvall, 2007). Without denying the key role of firms, an exclusive focus on formal entities at the local level can prevent us from recognizing the creative activities of individual agents that contribute to the local dynamics of knowledge formation beyond the level of the firm through processes such as brain storming, co-creation, peer evaluation, or interactive learning. As suggested by the papers in this special issue, it is important to investigate different types of individual and collective actors, their interrelationships, and their diverse roles to more fully understand processes of localized knowledge creation (Cohendet et al., 2010). This involves developing a territorial framework of an ecosystem of knowledge flows based on heterogeneous actors, such as individuals, communities (and other types of informal collectives), and firms (and other organizations), rather than viewing local agglomerations as systems of homogenous formal entities.

Existing observations of local knowledge formation processes in firms that are part of so-called ‘creative industries’ largely support this need to frame local ecosystems of creativity differently. Industries – such as advertising, architecture, arts and crafts, design, fashion, film, music, performing arts, publishing, software, toys and games, TV and radio, and video games – in which such knowledge formation crystallizes in a highly localized fashion, are considered to be the central building blocks of the new ‘creative economy’ (Cooke and Lazzaretti, 2008; Pratt and Jeffcutt, 2009; United Nations, 2013). A more precise analysis of these innovative industries, which are primarily concentrated in metropolitan areas, reveals certain paradoxes with respect to the issues raised above. The firms in these industries are generally lacking in research laboratories and specialized R&D subsidiaries. And, they have little or no formalized R&D activities, limited competencies in financing innovation, and rarely participate in international R&D partnerships or alliances. Despite a considerable body of research over the past decade, the question of how these firms and industries develop a capacity to innovate, and how they are able to achieve high economic performance levels, remains somewhat opaque.

It appears that the creative potential that unfolds in these creative industries does not, in the first place, rely on externalities generated with other formal entities. Cohendet and Simon (2007) argue that the respective firms tend to adopt a specific mode of organization. On the one hand, they concentrate internally on the governance of multi-project activities, which contribute

to the generation, exploitation and development of what could be referred to as ‘creative slack’ – which becomes a key source of innovation and, eventually, growth for the firms. The success of these activities is largely due to the creative role of communities of practice. On the other hand, these firms simultaneously concentrate their ‘indirect capabilities’ – in particular absorptive capabilities – within the ‘soil of a creative city’ (Cohendet and Simon, 2007) and, as such, within their highly-localized comfort zone. Thus, it appears that these knowledge-based firms, while concentrating internally on the formation and exploitation of creative slack as a core competence, delegate the building of creative capabilities to the local milieus of the city’s diverse specific communities (Crevoisier and Jeannerat, 2009). According to this line of thought, the development of absorptive capabilities is particularly important (Cohen and Levinthal, 1990). Through such capabilities, tapping into external knowledge bases – that are not local and not within the comfort zone – becomes a key source of inspiration and creativity that feeds the creative urban field, and generates dynamic localized knowledge ecosystems that are not only reproduced locally, but are also highly dependent on external knowledge pipelines.

Yet, this is not a straightforward or automatic process. The knowledge ecosystem requires a certain minimum size and can be put in danger when local social relationships become too exclusive, too rigid and too close (Bathelt and Glückler, 2011). As Granovetter (1973) convincingly argues in his famous work on ‘the strength of weak ties’, access to new, deviating knowledge that could become the source of a new wave of innovations may rely on contacts with diverse knowledge networks, which are likely created via weak bridging ties. This is because social networks that are comprised of strong ties tend to reinforce and confirm existing knowledge and are, thus, less likely to openly engage with controversial and disruptive forms of knowledge. In this context, Glückler’s paper (*this issue*) on the potential of controversial innovation in the ‘periphery’ adds an original perspective to debates regarding the interaction between local and distant knowledge – and between the center and the periphery. His paper builds elements of a theory of peripheral innovation in transnational corporations by providing evidence of how these peripheries can play a decisive role in knowledge creation. In a corporate setting, this may be crucially important for firms when faced with ruptures in the technological and market context that require disruptive and controversial, rather than cumulative and incremental changes. One of the key reasons behind this innovative potential is that the smallness and co-location of many diverse organizational units in peripheral subsidiaries

enhances knowledge fluidity and favors knowledge cross-fertilization between divisions. This process enhances the creation of new knowledge ‘from the outside in’ because, in the words of Thomke and Kuemmerle (2002, 631), “peripheral parts of an organization that make links with its environment face less moral and political opposition than parts that are its core; the reason being that changes at the periphery raise fewer fundamental questions about the nature of the organization itself than changes at the core”. A peripheral position in an organization may, thus, be an opportunity to probe a controversial innovation. While this argument focusses on the corporate level, its consequences may also be relevant for tightly-knit or relatively small local economic milieus that are faced with unforeseeable contextual ruptures.

3. Community formation and local creativity: from ideas to market penetration

The arguments presented above call for a deeper investigation into the dynamics of creativity and their underlying socio-spatial contexts. In order to better understand how knowledge spreads and is passed on from creative individuals to wider collective processes – and, eventually, to commercial markets – we must identify the conditions under which the act of knowledge creation leads to specific social processes of creative construction within the context of relational and spatial dynamics. The literature on the dynamics of creativity suggests that the process of creation is not restricted to the role of a few talented individuals (Drazin et al., 1999). Nor is it restricted to the control and strategic vision of a few specific organizations (firms or laboratories). Central processes that affect the dynamics of creativity also involve the role of informal collectives of agents, such as communities. They drive the process of knowledge building through their members’ passion and commitment to the creative process, the development of a shared cognitive structure, the willingness of some to take leadership roles, and the formation of a ‘manifesto’ or ‘codebook’ (Cowan et al., 2000). The latter defines a tool-box that enables community members to establish a common knowledge frame based on which innovations can be developed collectively. It is through so-called ‘knowing communities’ (Boland and Tenkasi, 1995) – a combination of communities of practice, epistemic communities and virtual communities – that processes of codification and rule-making are undertaken. These processes are central to the building of creative ideas. The role of these knowing communities is particularly critical in the initial stages of knowledge creation. Research has shown that they may

operate best and in their most dynamic form when they rely on face-to-face exchanges between a larger group of their members (Rantisi et al., 2006). Such face-to-face interaction can take place in different ways: through virtual communication, in the context of localized industry settings, or in global temporary community gatherings (Bathelt and Henn, 2014). Studies suggest that processes of discontinuous or radical knowledge creation, in particular, rely on a diverse field that simultaneously involves creative individuals, knowing communities, organizations and new institutional environments. But the roles of these diverse elements change over time and depend on the process stage. In early stages, for instance, when creative ideas first appear, knowledge developers may try to mobilize knowing communities to undertake efforts of codification in order to generate favorable conditions for the diffusion of related innovations. However, as the process of codification develops further, and as the knowledge base becomes more stable, the role of knowing communities becomes secondary to the institutional fields. And, once the processes of codification completely stabilize, organizations that comply with these institutional fields likely develop into dominant actors (Callon, 1999).

Applying this perspective to urban agglomerations, Cohendet, Simon, Grandadam and Capdevila (*this issue*) focus on the formation of a radical breakthrough innovation, the ‘cubism’ movement in arts, by an epistemic community that was highly localized in a given agglomeration (i.e. the Parisian scene at the beginning of the past century). By pointing out similarities with numerous other types of innovation across different industry fields, their analysis describes the remarkable process of how breakthrough innovations can be initiated and developed without the help of established formal institutions or organizations. This finding resonates with Glückler’s work (*this issue*). The authors argue that the new knowledge produced by such epistemic communities, whose members originate from different local milieus, is strongly shaped by the structure of the localized milieu, in which the radically new ideas crystalize and emerge. They find that the development of new artistic, scientific or technological movements requires the development of a so-called ‘middleground’ (Cohendet et al., 2010). This ‘middleground’ allows the epistemic community to emerge from the ‘underground’ and generate a common body of knowledge that can eventually be transformed into major innovations by the ‘upperground’.

This approach suggests that discontinuous knowledge creation in creative cities relies on an institutional process that connects talented individuals with each other who establish the so-called ‘underground’. These individuals are not immediately linked to the commercial and

industrial world, but play an important role in initial knowledge generation and spillover processes (Arvidsson, 2007; Florida, 2008) as part of the organizations and formal institutions of the ‘upperground’ (for instance, as employees). The ‘upperground’ represents the local concentration of firms, research centers and laboratories and provides a business-related background specialized on market integration (Caves, 2000; Hartley, 2005). For the creative process to unfold its dynamic and become institutionalized, another level of interactions needs to be included. The process critically relies on the ‘middleground’, which consists of intermediary groups and communities that link the informal ‘underground’ culture with the formal organizations from the ‘upperground’. The ‘middleground’ produces indispensable intermediary cognitive tools and devices, which provide the basis for situated peer reviews and the validating mechanisms needed for further incremental innovations. These processes continuously generate opportunities that help knit the communities closer together. As Cohendet et al. (*this issue*) demonstrate, the ‘middleground’ constitutes an indispensable locus where spontaneity is progressively structured and shaped in a way that allows it to be understood within a broader market context. For the epistemic communities, the local structure thus becomes a crucial condition and reference point for the production and reproduction of new radical breakthrough knowledge.

The local structure as a crucial condition for knowledge creation is also a major concern in Rantisi’s (*this issue*) study on industry intermediaries in the construction of ‘local pipelines’. Using the case of the Montreal fur garment cluster, it is suggested that cluster linkages are not always automatic or emergent (Bathelt and Glückler, 2011). While the study does not focus explicitly on the role of knowing communities, it reveals that local connections may sometimes develop between spatially proximate but cognitively distant firms and agents, thereby encouraging diverse ideas and practices to meld. As such, the study truly engages with aspects surrounding the often postulated but rarely proven concept of ‘related variety’ (Boschma and Frenken 2011), i.e. beyond obvious value-chain-related linkages. It is shown how cognitive proximity develops from frequent trust-based interactions, based on the co-presence of, and interactions between, agents that are geographically proximate and inhabit the same ‘regional world of production’ (Storper, 1997; Storper and Venables, 2004). The process of constructing local pipelines relies on such processes of reducing the cognitive distance between pipeline participants so that new knowledge can be effectively communicated and adopted. In the context

of the Montreal fur garment cluster, this involves initiating inter-industry contacts and enhancing designers' knowledge of furs, as well as sensitizing manufacturers to improve their capacity to integrate new design ideas.

Cole and Barbera's work (*this issue*) clearly goes beyond the local/regional scale. Focusing on the creation of a Europe-wide community in the animation industry, the authors suggest that the process of community creation can extend beyond the local/urban level to become an integrative force across regional and national contexts. The study documents another type of 'middleground' intervention that permits, on the one hand, the negotiation between situated and context-specific understandings and, on the other hand, the development of shared understandings and common conventions for action within the broader field of European animation. This 'middleground' includes elements such as the establishment of a 'codebook', relatively small national knowing communities with partly overlapping, partly different knowledge practices, and the organization of formal community gatherings that provide temporary reference points for co-present face-to-face-based interaction (see next section). The authors shed light on the institutional processes required to mobilize situated forms of knowledge and the important bridging functions of so-called 'institutional entrepreneurs' (Maguire et al., 2004; Battilana et al., 2009). The analysis draws our attention to the sometimes crucial role of intermediate or meso-level actors – in this case, the Cartoon association – in reshaping geographical relationships by accelerating and supporting the development and adoption of coherent conventions across transnational communities. The repeated nature of many of these gatherings reinforces the convergence of understandings and the establishment of new patterns of mutual expectations. Based on periodic interactions, proto-institutions and new scripts for action emerge that, over time, can consolidate into widely accepted conventions and practices in the respective communities (Bathelt and Glückler, 2014, 354).

4. Temporary gatherings as trans-local knowledge platforms

Especially in the context of knowledge-intensive firms and organizations, communities that go beyond organizational boundaries are of great importance. These organizations do not rely and cannot solely compete based on internal knowledge, but integrate knowledge from external sources in order to prepare themselves for contextual changes and make continuous adaptations to their environment. In this context, the literature on open innovation highlights the importance

of identifying and using knowledge and creative inputs from agents outside the organizational realm. The literature includes many cases where, for instance, innovative projects have developed with significant inputs from external communities based on interactions in virtual environments (e.g. Dahlander and Magnusson, 2008; Miller et al., 2009). In contrast, relatively few studies have investigated co-creation processes of knowledge through communities that meet in physical spaces (albeit not on a permanent basis). In recent years, different types of spaces have been identified as local platforms for knowledge creation related to concepts such as ‘co-working spaces’, ‘maker spaces’ or ‘co-design labs’. Some of these creative and innovative spaces are characterized as highly experimental and distant from commercial goals, like ‘hacker spaces’. Others represent organizational initiatives that focus on accelerating the process of collective creativity towards a commercial solution, such as co-design labs. A third type of platform is open to the general public and encourages the participation of citizens in, for instance, ‘living labs’ or ‘fab labs’, while yet another type focusses on a specific group of agents, such as entrepreneurs sharing co-working spaces (Bilgram et al., 2008). The processes of knowledge creation through these platforms, as well as the dynamics between the actors, have not yet received much attention in the literature. Analyzing these processes is important to understand the interdependent relations of individuals, communities and organizations in knowledge creation processes (Stewart and Hyysalo, 2008).

Whereas the above forms of community interaction are based on co-present interaction over a certain time period, another type of regular temporary gatherings of economic agents occurs in the form of international trade fairs, conventions, conferences, negotiations and other forms of meetings and events that bring together members of economic networks and knowing communities. These types of gatherings have recently become the subject of substantial scholarly attention (Maskell et al., 2006; Borghini et al., 2006; Lampel and Meyer, 2008). And, this work has stimulated important conceptual and empirical debates on the role of such gatherings – both as temporary organizational forms that enable face-to-face-based knowledge generation and as events, which connect knowledge pools that are spatially, culturally and institutionally (more or less) distant from each other (Rallet and Torre, 2009). While such events have traditionally been discussed from the perspective of accessing industrial buyers in less well-known markets, often drawing on normative perspectives of how best to increase product sales, relatively little research has addressed how knowledge creation during these events connects distant knowledge bodies

with one another. At this point, not much is known, for instance, about the precise role of such events in processes of identifying relevant distant knowledge pools (see, also, Maskell, *this issue*), or how these events generate or support processes of upgrading in less developed economies. Although past research has long recognized the importance of trade fairs in the expansion and diffusion of market relations (Allix, 1922), hardly any work has investigated how these events trigger and support industrialization processes and how they connect local production contexts with global value chains or stabilize global knowing communities.

Such temporary gatherings can generally be viewed in different ways: First, they can be viewed as ‘organized anarchies’ that operate in seemingly chaotic and unpredictable ways (Bathelt and Gibson, 2013). From this perspective, they connect different institutional environments and support the diffusion of ideas and technologies, while, at the same time, reproducing institutional differences that exist between regions, national states, technology fields, and so on. This dual function relates to the fact that the nature of associated learning processes differs systematically, leading to deviating interpretations and processes of sense-making. Second, these gatherings can be viewed as events that generate opportunities for exchanges and the development of relations that can be transformed into actual transactions in the future. Through such relations, important connections are drawn between distant production and consumption spaces. On the one hand, they connect advanced producers from developing countries with global leaders and their respective technology regions, generating opportunities for learning and upgrading over time. On the other hand, they provide opportunities for firms from leading industry clusters in developing countries to create linkages with each other, thus encouraging the development of sophisticated knowledge ecosystems and strengthening ‘creative competitive advantages’.

Li (*this issue*) illustrates these linkages and the importance of temporary clusters through an examination of inter-regional and inter-cluster connections at Asian trade fairs. More specifically, he looks at how such temporary gatherings in Asian countries specialize in relation to their surrounding regional/national economies, and how trade fairs can transform trade places into knowledge spaces or trans-local learning spaces for global industrial communities. Using a knowledge-based typology of trade fairs (Rinallo and Golfetto, 2011), the paper develops a dynamic framework of temporary clusters suggesting that trade fairs with a more diverse configuration of domestic and international participants generate more technological learning

opportunities. Learning opportunities in such ‘local-global clustering spaces’ apparently become more prominent as the hosting economies reach a more advanced developmental stage. Tentative evidence is provided that indicates how an architecture of global temporary networks of clusters for advanced learning processes may be formed in Asia based on these temporary gatherings.

5. Outlook

The above discussion emphasizes many aspects of current research endeavors that engage with processes of local knowledge building and global knowledge accessing practices in economic contexts. Some of the pressing questions and challenges confronted by corresponding studies about the ‘geographies of knowledge transfers over distance’ (Bathelt and Henn, 2014) are directly addressed in the contributions of this special issue. Taken together, they point toward a number of important avenues for future research in the field:

First, some of the papers encourage us to revisit classical frameworks that consider firms and organizations as the primary source of new knowledge in a given agglomeration. An important part of local knowledge building and of the dynamics of creativity in the development of new ideas takes place at the intersection between the informal and formal activities of the ‘underground’ and ‘upperground’, respectively. This process can be conceptualized as an ecosystem where constant creative feedbacks between individuals, communities and organizations occur. The papers in this special issue persuasively argue that the new knowledge produced by these heterogeneous agents is shaped by the localized milieus and their structures, in which new ideas emerge. The formation of local knowledge appears as a result of ongoing reflexive learning processes. On the one hand, these dynamics involve a process of progressive knowledge construction that builds on the elements of a common base – as expressed in a manifesto, codebook or in conventions. On the other hand, they imply the facilitation and negotiation of the ‘middleground’ in linking the formal and the informal, as well as the local and the global, via an institutional infrastructure and the actions of communities.

Second, the findings of this special issue confirm that the integration between local and non-local knowledge pools plays a central role in processes of knowledge creation and the formation of new ideas. The notion of a contradiction between local creativity and global acquisition practices is not only dispelled, but most contributions to this special issue insist that the local and the global are fundamentally linked and interwoven. As Maskell (*this issue*, [print](#)

page to be added) explains, “[w]ork on clusters during the last few decades convincingly demonstrates enhanced opportunities for local growth and entrepreneurship, but external upstream knowledge linkages are often overlooked or taken for granted...” in this research. The reality is that firms in clusters and creative urban contexts routinely need “to acquire knowledge and solutions from geographically and relationally remote sources”.

Third, the papers in this special issue suggest that it may be necessary to revisit the connection between different kinds of proximities and processes of knowledge creation. As individuals, communities, firms and other organizations move beyond the knowledge bases in their local/national comfort zones and act at an increasingly spatially-distributed, international or even global scale, our understanding of complex knowledge creation processes cannot be restricted to geographically close-by relations or territorially-confined contexts. In line with current theories and understandings of the spatiality of innovation and learning, we need an alternative perspective on proximity – i.e. relational proximity – to better capture processes of knowledge creation in transnational contexts. This perspective acknowledges the importance of close-by knowledge exchanges and the potential economies inherent to high-quality local buzz environments. It nevertheless suggests that the production of such ecologies from geographical or spatial proximity is not an obligatory process, and that relations to partners do not just exist or automatically develop.

Spatial proximity generates a myriad of opportunities and potential efficiencies that, in order to become exploitable, require active building in the form of relational ties and networks (Amin and Cohendet, 2004; Bathelt and Glückler, 2011). Former research has identified a number of categories of ‘proximity’ (Zeller, 2004; Rallet and Torre, 2005), or better: affinity, that affect economic interaction. Only one of these categories is geographical proximity, which operates through spatial metrics, but has no causal power without social/economic action. Geographical proximity can, however, become meaningful when activated via organized proximity, which relates to the need to actively create opportunities for knowledge creation between actors. Resulting knowledge exchanges, in turn, require institutional proximity, emphasizing the role played by institutional processes in economic development.

In the past, much of the research in economic geography and related disciplines was concerned with productive activity and associated flows of goods and people. This includes research on the territorial anchoring of firms, localized systems of innovation, analyses of

relationships between firms, territorial regulations and state policies, and, more generally, the modes of interaction and coordination between actors in production that are situated either face to face or at a distance. Knowledge and knowledge creation played a minor role in corresponding work. While there is a tendency in the literature to view the above proximities as separate entities that have causal power and can be easily substituted for each other, it is important to analyze the combined and integrative effects of different forms of proximity in knowledge creation. The resulting dynamic processes are highly sensitive to context and lead to different knowledge creation trajectories depending on specific spatial, cultural, political, institutional, technological or economic conditions. It is through such an integrative perspective that we might be able to understand the complex processes of knowledge creation in permanent, stationary and temporarily localized settings that are simultaneously place-based and highly dependent on trans-local and cross-territorial connections.

Acknowledgements

We would like to thank Neil Coe and Rachael Gibson for critical comments on an earlier draft of this paper.

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