

Editorial: From ‘Territorial Innovation Models’ to ‘Territorial Knowledge Dynamics’: On the Learning Value of a New Concept in Regional Studies

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‘TERRITORIAL KNOWLEDGE DYNAMICS’: ONE MORE FUZZY CONCEPT?

In the past decades, knowledge, its various dynamics of generation, use and (re)combination have been scrutinized in ever more detail to explain empirically and theoretically how different individuals, firms, regions and nations compete in a globalized knowledge-based economy (LAGENDIJK, 2006; REGIONAL STUDIES, 2012). However, and surprisingly, scholars have hardly developed a reflection on their own knowledge dynamics. Regional studies have thus extensively, but also restrictively, focused on the knowledge of others.

In 1999, a prominent discussion was instigated by Markusen on the role of qualitative research and concepts (MARKUSEN, 1999; REGIONAL STUDIES, 2003). The author made the contention that the multiplication of particular qualitative studies leads to the creation of ephemeral ‘fuzzy’ concepts hardly measurable and generalizable in consolidated theories. Along with a critical debate on methods and research design recalled further in this issue by BUTZIN and WIDMAIER (2015, in this issue), Markusen’s controversy also induced a more general reflection on the place of new concepts in the production of knowledge in scientific communities (LAGENDIJK, 2003).

The genesis of the concept of ‘territorial knowledge dynamics’ (TKDs), its exploration in the project EURODITE and its examination in this special issue allow a pragmatic reflection on the learning value of a new concept in regional studies.

THE VALUE OF A NEW CONCEPT IN SCIENTIFIC AND COLLABORATIVE KNOWLEDGE PRODUCTION

EURODITE was funded from September 2005 to August 2010 by the European Commission under its

6th Framework Programme (Contract Number 006187) and brought together 28 partner teams from 12 countries. A main ambition of this project was to integrate various researchers from different disciplines (geography, economics, management, anthropology, sociology, political sciences) and regions to realize case studies that should be at the same time specific and comparable. These case studies had to contribute to a renewed understanding of innovation and territorial development in a knowledge-based economy by illuminating the variety of ‘knowledge dynamics’ in diverse socio-economic, institutional and geographical European contexts (MACNEILL and COLLINGE, 2010).

For POSNER *et al.* (1982), conceptual change is a main driver of scientific knowledge production. The success of a new concept is not primarily bounded to its immediate potential to predict new scientific results. Rather it is determined by its ability to generate new knowledge and to drive new theoretical considerations. A new concept is thus fundamentally open. Its value lies in the capacity to accommodate (PIAGET, 1950) an established scientific scheme to interpret more satisfyingly an investigated phenomenon. Conceptual change is thus a situated learning process taking place within a specific scientific context. Not only should a new concept express dissatisfaction with a pre-existing conception but also it should be sufficiently intelligible and plausible in a specific context of meanings or theories and should open to a potentially fruitful research programme that goes beyond an individual work (POSNER *et al.*, 1982).

Inspired by already well-established ‘territorial innovation models’ (TIMs) that had emphasized the cumulative and techno-productive learning processes enabling specific territories to compete in a globalized economy (MOULAERT and SEKIA, 2003; LAGENDIJK, 2006), EURODITE was originally designed to investigate how knowledge is generated and exploited in different ‘regions’, ‘sectors’ and ‘firms’. However, the preliminary

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work phases of the project led to a more disruptive research hypothesis. It was subsequently assumed that in a globalized knowledge-based economy, combinatorial knowledge dynamics developing across regions, sectors and firms should be the starting point of a contemporary understanding of economic and territorial development. The importance of cumulative knowledge dynamics characterizing specific regions, sectors and firms was not to undermine but should be addressed in different terms. They were regarded as the endogenous capacities of firms or regions to access external knowledge and to anchor it through combinatorial innovations.

The term of ‘territorial knowledge dynamics’ (TKDs) was coined as a heuristic concept to explore and examine the particular socio-economic processes, spatial organizations and policy issues implied by this research hypothesis (CREVOISIER and JEANNERAT, 2009). A TKD was broadly defined as a significant change in the knowledge base of an economic activity. This change was meant to evolve within a system of social relations and of governing institutions in which learning processes situate within and across concrete time and space contexts through a dynamic of mobility and anchoring of knowledge.

At this point of the project, this new concept became a boundary object, ‘both adaptable to different viewpoints and robust enough to maintain identity across them’ (STAR and GRIESEMER, 1989, p. 8). This definition enabled researchers to overcome potential divergence on disciplinary or predetermined interpretations, for instance about how ‘a region’ should be strictly defined or how ‘knowledge’ should be characterized. At the same time, positioning the concept of TKDs against the well-known TIMs provided a common ground of understanding to realize individual cases. The possibility of entering into concrete coordinated research was opened.

The conceptual shift from TIMs to TKDs was thus not proposed as another ‘grand[e] critique’ (LAGENDIJK,

2003). The two concepts were not opposed as two competing explanation of regional development. They had an interdependent learning value. On the one hand, the concept of TKDs provided new empirical and theoretical avenues by providing an accommodated scheme of interpretation. On the other hand, the conceptual scheme of TIMs brought meaning, plausibility and intelligibility to this new scheme (Table 1).

LEARNING FROM A NEW CONCEPT THROUGH RE-EMBEDDING IN SCIENTIFIC DEBATE

In EURODITE, establishing TKDs as a new scientific concept was not a research end per se. This concept was primarily utilized as an exploratory tool to investigate, interpret and report different researched cases. It only gained then more scientific consistence. A specific ‘interpretive zone’ based on a common conceptual language that emerged among the project partners and a ‘higher comprehensive corpus’ progressively developed at the crossroads of individual observations and shared theoretical reconsiderations (WASSER and BRESLER, 1996). Not just boundary object, the concept of TKDs was thus also an intermediary object mediating a collective process of conception and creation (VINCK, 2009).

In the past few years multiple scientific contributions from EURODITE have been published (e.g., CARRINCAZEUX and GASCHET, 2014, COOKE *et al.*, 2011; HALKIER *et al.*, 2012; KAISER and LIECKE, 2009; VALE and CARVALHO, 2012; MANNICHE and LARSEN, 2013; REHÁK *et al.*, 2013; STRAMBACH and HALKIER, 2013; STRAMBACH and KLEMENT, 2013). This special issue of *Regional Studies* provides a further and complementary contribution to theses publications by providing a specific reflection around the concept of TKDs. On the one hand, the seven collected papers

Table 1. From innovation and proximity to territorial knowledge dynamics (TKDs)

	Traditional paradigm: innovation and proximity	Broadened paradigm: TKDs
Initial question	Explain the success/failure of certain regions in a context of technological change and the ‘tertiarization’ of industrial production	Explain territorial consequences of mobility, opening of borders, knowledge society, ‘culturization’ of the economy
Mobilization of new knowledge	Specialized/intermittent	Generalized/continuous
Unit of change	Innovation (mainly industrial or technological)	Knowledge dynamics
Market interdependencies	Production and consumption are distinct (traditional goods and services)	Complex production–consumption networks
Local knowledge dynamics	Essentially cumulative trajectories	Dominant combinatorial dynamics
Territorial scales	Local/global	Multi-location networks and multi-scalar processes
Operators, spaces where emergence occurs	Innovative milieus, industrial districts, etc.	Multi-location environments
Relation to the global environment	Specialization of activities; differentiation of products	Specification of the project or the business model
Regional policy	Synergies between production and training/research systems	Capacity to participate in multi-location knowledge dynamics and to anchor them

draw on empirical material from EURODITE to illuminate various aspects and possible comprehensions of how TKDs develop and anchor within and across firms, sectors, regions and nations. On the other hand, they introduce the concept of TKDs in current scientific debates and embed it within established theories in regional studies and economic geography. In doing so, the papers report on the new empirical knowledge that could be developed around this concept within EURODITE. By giving this concept a position and a meaning in the existing literature, they also open new research avenues and generate new knowledge in a broader scientific community. The concept thus gains a further learning value through specific 'subtle critics' (LAGENDIJK, 2003) of established conception of territorial and economic development. Across the seven papers three crucial research and policy avenues should be, in our view, emphasized.

First, a renewed conception of the local–global dichotomy is advocated. The typology of 'anchoring milieus' provided by CREVOISIER (2015, in this issue) shows that regional development occurs through interdependent and multi-local learning relations and also within multi-scalar dynamics of increasing mobility from above and anchoring from below. The anchoring of mobile knowledge should not be considered as a spontaneous local 'buzz' enhanced by geographical proximity. For CRESPO and VICENTE (2015, in this issue), local anchoring relates to the local capacity to create strategic connection between different networks. Policy should primarily identify the 'missing links' between these networks and provide 'surgical' support to create them rather than providing generic support to specific industries. In a complementary line of argumentation, JAMES *et al.* (2015, in this issue) examine the local anchoring of mobile knowledge as the capacity to 'recirculate' knowledge within localized networks. In their view, regional innovation policy should provide measures to implement localized networks of recirculation that differ from traditional cluster networks dedicated to the circulation of knowledge within specific sectors.

Second, understanding the articulation between firm and TKDs is crucial to develop further conceptions of regional development. For BUTZIN and WIDMAIER (2015, in this issue), exploring TKDs necessitates new methods. 'Innovation biographies' capture TKDs through the story and the history of concrete firm developments across regions and industries. This method applied in the case studies of JAMES *et al.* (2015, in this issue) and MACNEILL and JEANNERAT (2015, in this issue) on automotive developments is particularly relevant to show how micro-dynamics of knowledge

help understanding TKDs at a meso-level. The comparison of inter-organizational collaborations provided by VISSERS and DANKBAAR (2015, in this issue) shows additional evidence on the necessity to distinguish various scales (e.g. regional, national, international) to understand TKDs operating across space.

Third, the question of how TKDs can contribute to create new economic value appears a central issue for further research and conception on territorial innovation. For CREVOISIER (2015, in this issue), this question must be addressed not only as capacity to create economic value through knowledge 'ownership' but also through knowledge 'authorship' that is monetized through a complex geography of business models. For MACNEILL and JEANNERAT (2015, in this issue), economic value goes beyond production and standard markets and draws upon 'status markets' of complex multi-local networks of production and consumption. These two papers raise crucial implication for regional policy, which is called on to develop new instruments to support social acknowledgement and cultural meaning within markets. The final paper by JEANNERAT and KEBIR (2015, in this issue) opens the concept of TKDs to a further conception of territorial innovation based on a systematic understanding of market valuation. Most of the case studies of EURODITE are mobilized to illustrate different 'economic systems of knowledge valuation' organized between different locations and institutionalized at various scales.

This special issue therefore starts with the question of the learning value of a concept and ends with the question of the economic value of learning. Both are crucial to provide a valuable understanding of our society, of our own scientific and collaborative knowledge (ZITOUN *et al.* 2007) and of why, in our view, regional studies still matter.

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REFERENCES

- BUTZIN A. and WIDMAIER B. (2015) Exploring territorial knowledge dynamics through innovation biographies, *Regional Studies*.

- CARRINCAZEAX C. and GASCHET F. (2014) Regional innovation systems and economic performance: between regions and nations, *European Planning Studies* **23**, 262–291. doi:10.1080/09654313.2013.861809
- COOKE P., DE LAURENTIS C., MACNEILL S. and COLLINGE C. (2011) *Platforms of Innovation: Dynamics of New Industrial Knowledge Flows*. Edward Elgar, Cheltenham.
- CRESPO J. and VICENTE J. (2015) Proximity and distance in knowledge relationships: from micro to structural considerations based on territorial knowledge dynamics (TKDs), *Regional Studies*. doi:10.1080/00343404.2014.984671
- CREVOISIER O. (2015) The economic value of knowledge: embodied in goods or embedded in cultures?, *Regional Studies*. doi:10.1080/00343404.2015.1070234
- CREVOISIER O. and JEANNERAT H. (2009) Territorial knowledge dynamics: from the proximity paradigm to multi-location milieus, *European Planning Studies* **17**, 1223–1241. doi:10.1080/09654310902978231
- HALKIER H., JAMES L., DAHLSTRÖM M. and MANNICHE J. (2012) Knowledge dynamics, regions and public policy, *European Planning Studies* **20**, 1759–1766. doi:10.1080/09654313.2012.723419
- JAMES L., VISSERS G., LARSSON A. and DAHLSTRÖM M. (2015) Territorial knowledge dynamics and knowledge anchoring through localized networks: the automotive sector in Västra Götaland, *Regional Studies*. doi:10.1080/00343404.2015.1007934
- JEANNERAT H. and KEBIR L. (2015) Knowledge, resources and markets: what economic system of valuation?, *Regional Studies*. doi:10.1080/00343404.2014.986718
- KAISER R. and LIECKE M. (2009) Regional knowledge dynamics in the biotechnology industry: a conceptual framework for micro-level analysis, *International Journal of Technology Management* **46**, 371–385. doi:10.1504/IJTM.2009.023386
- LAGENDIJK A. (2003) Towards conceptual quality in regional studies: the need for subtle critique – a response to Markusen, *Regional Studies* **37**, 719–727. doi:10.1080/0034340032000108804
- LAGENDIJK A. (2006) Learning from conceptual flow in regional studies: framing present debates, unbracketing past debates, *Regional Studies* **40**, 385–399. doi:10.1080/00343400600725202
- MACNEILL S. and COLLINGE C. (2010) The rationale for EUODITE and an introduction to the sector studies, in COOKE P., DE LAURENTIS C., MACNEILL S. and COLLINGE C. (Eds) *Platforms of Innovation: Dynamics of New Industrial Knowledge Flows*, pp. 38–52. Edward Elgar, Cheltenham.
- MACNEILL S. and JEANNERAT H. (2015) Beyond production and standards: toward a status market approach to territorial innovation and knowledge policy, *Regional Studies*. doi:10.1080/00343404.2015.1019847
- MANNICHE J. and LARSEN K. T. (2013) Experience staging and symbolic knowledge: the case of Bornholm culinary products, *European Urban and Regional Studies* **20**, 401–416. doi:10.1177/0969776412453146
- MARKUSEN A. (1999) Fuzzy concepts, scanty evidence, policy distance: the case for rigour and policy relevance in critical regional studies, *Regional Studies* **33**, 869–884. doi:10.1080/00343409950075506
- MOULAERT F. and SEKIA F. (2003) Territorial innovation models: a critical survey, *Regional Studies* **37**, 289–302.
- PIAGET J. (1950) *The Psychology of Intelligence*. Routledge & Kegan Paul., London.
- POSNER G. J., STRIKE K. A., HEWSON P. W. and GERTZOG W. A. (1982) Accommodation of a scientific conception: toward a theory of conceptual change, *Science Education* **66**, 211–227. doi:10.1002/sce.3730660207
- REHÁK Š., HUDEC O. and BUČEK M. (2013) Path dependency and path plasticity in emerging industries two cases from Slovakia, *Zeitschrift für Wirtschaftsgeographie* **57**, 52–66.
- Regional Studies* (2003) Volume 37, Issue 3.
- Regional Studies* (2012) Volume 46, Issue 8.
- STAR S. L. and GRIESEMER J. R. (1989) Institutional ecology, ‘translations’ and boundary objects: amateurs and professionals in Berkeley’s Museum of Vertebrate Zoology, 1907–39, *Social Studies of Science* **19**, 387–420. doi:10.1177/030631289019003001
- STRAMBACH S. and HALKIER H. (2013) Reconceptualizing change: path dependency, path plasticity and knowledge combination; editorial, *Zeitschrift für Wirtschaftsgeographie* **57**, 1–14.
- STRAMBACH S. and KLEMENT B. (2013) Exploring plasticity in the development path of the automotive industry in Baden-Württemberg: the role of combinatorial knowledge dynamics, *Zeitschrift für Wirtschaftsgeographie* **57**, 67–82.
- VALE M. and CARVALHO L. (2012) Knowledge networks and processes of anchoring in Portuguese biotechnology, *Regional Studies* **47**, 1018–1033. doi:10.1080/00343404.2011.644237
- VINCK D. (2009) De l’objet intermédiaire à l’objet-frontière, *Revue d’anthropologie des connaissances* **3**, 5 1–72. doi:10.3917/rac.006.0051
- VISSERS G. and DANKBAAR B. (2015) Spatial aspects of interfirm collaboration: an exploration of firm-level knowledge dynamics, *Regional Studies*. doi:10.1080/00343404.2014.1001352
- WASSER J. D. and BRESLER L. (1996) Working in the interpretive zone: conceptualizing collaboration in qualitative research teams, *Educational Researcher* **25**, 5–15. doi:10.3102/0013189X025005005
- ZITTOUN T., BAUCAL A., CORNISH F. and GILLESPIE A. (2007) Collaborative research, knowledge and emergence, *Integrative Psychological and Behavioral Science* **41**, 208–217. doi:10.1007/s12124-007-9021-z