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Geographies of transition - From topical concerns to theoretical engagement: A comment on the transitions research agenda

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Abstract

This viewpoint takes stock with the ‘geography of sustainability transitions’ (GOST) as it is presented in the transitions research agenda. GOST has been a relatively recent addition to transition theorizing, addressing the need for greater sensitivity and attention to the scales, spatialities, and context-specific factors that shape transitions. In our view, the agenda represents a rather narrow perspective on GOST, which is geared to two empirical themes, namely urban transitions and transitions in developing countries. While these are relevant and topical issues, the section lacks sufficient acknowledgement of the increasing engagement of geographers with transitions studies and the theoretical approaches they have brought to bear on the field. This short commentary thus aims at complementing the agenda paper by outlining a theoretical research agenda that is emerging in this field, framed around the conceptualization of scales, places and spaces in which transitions unfold.

Introduction

The updated research agenda of the Sustainability Transitions Research Network (STRN) provides testimony to the thriving state of transitions research (Köhler et al., 2019). In view of the reported successes and considering the quickly expanding theoretical legacy of the field, it is not surprising that the STRN agenda is structured around its ‘foundational’ concepts (e.g. MLP, SNM, TM, TIS). This caters to conceptual coherence and consistency but may also increase the risk for theoretical lock-in in the long term. This viewpoint takes the section on the ‘geography of sustainability transitions’ (GOST) as a case in point for outlining how field-internal agenda setting should go hand-in-hand with deepened theoretical engagement with related social science disciplines.

The ‘geography of sustainability transitions’ has been a relatively recent addition to transition theorizing, addressing the need for greater sensitivity and attention to the scales, spatialities, and

context-specific factors that shape transitions. The agenda paper frames the ‘geography of transitions’ as being “primarily concerned with understanding how and why transitions are similar or different across locations” (Köhler et al., 2019: 14). Despite the conceptual subtitle ‘spaces, scales and places’, most of the subsequent discussion focuses on empirical insights regarding the geographical unevenness and spatial variegation of transition trajectories and their impacts.

As a result, the agenda represents a rather narrow perspective on the GOST, which is geared to two empirical themes, namely urban transitions and transitions in developing countries. While these are relevant and topical issues, the section lacks sufficient acknowledgement of the increasing engagement of geographers with transitions studies and the theoretical approaches they have brought to bear on the field. This short commentary thus aims at complementing the STRN agenda by outlining the contours of a wider theoretical research agenda that is emerging in this field, framed around the conceptualization of scales, places and spaces in which transitions unfold (Coenen et al., 2012; Hansen and Coenen, 2015; Murphy, 2015).

Scale

The agenda paper reflects a general tendency in transition studies to implicitly suppose that transition processes play out (and can be analysed) within the boundaries of pre-given, and often formal, geographical categories such as ‘cities’, ‘regions’, ‘nations’ or ‘the global South.’ Such an approach is problematic in that it fails to consider the fluidity, permeability, and multi-scalarity of such territorial containers. Moreover, this view is at odds with recent insights in the field itself, which highlight the importance of horizontal and vertical interdependencies between cities, regions, countries and supranational structures in transition processes (Bauer and Fuenfschilling, 2019; Hansen et al., 2018; Quitzow, 2015; Sengers and Raven, 2015). It also contradicts state of the art theorizing in human geography, where multi-scalar, relational, and constructivist understandings of scale and socioeconomic processes predominate (Coenen et al., 2012; MacKinnon, 2011; Marston, 2000).

Transition studies accordingly need to develop concepts and methods that better account for the manifold ways in which apparently territory-specific processes are influenced by ‘distanciated’ policy interventions, narratives, firms, or institutional arrangements. Recent contributions have ventured in this direction predominantly by exploring multi-scalar relations at a niche level, e.g. through the perspectives of transnational linkages in niche experiments (Wieczorek et al., 2015), global innovation systems (Binz and Truffer, 2017), or policy mobilities (Sengers and Raven, 2015).

Regime-level processes, in turn, have only very recently been conceptualized from a multi-scalar perspective (Bauer and Fuenfschilling, 2019; Fuenfschilling and Binz, 2018; Späth and Rohrer, 2012) and we still lack a thorough understanding of how ‘landscape’ forces are influenced by and influencing developments at interrelated spatial scales (Schot and Kanger, 2018). Taking multi-scalarity seriously means deeply reconceptualizing some of the foundational concepts and acknowledging the role that distanciated forces play in shaping niche, regime and landscape dynamics or the development of TIS structures and SNM processes in specific places. Economic geography, international political economy and globalization studies all offer promising avenues for improving our theorizing in this respect (Amin and Cohendet, 2004; Fuenfschilling and Binz, 2018; Newell, 2019).

Place

Second, the agenda provides a static understanding of place that ignores the richness of place-making theories in geography. These theories argue that places are produced relationally – meaning they are not pre-ordained, discrete sites or locations, but contexts actively constituted by the relations between actors, materials, cultures, histories, and structures (Pierce et al., 2011). These place-making relations come together collectively in place frames – shared understandings of what a place is, means, and might become through socio-political change or sociotechnical transitions (McCauley and Murphy,

2013). Such frames are powerful with respect to potential transition trajectories given they can be mobilized in support of (or against) niche innovations or regime changes, and because they reflect wider landscape features such as societal values, national or global trends, and/or cultural shifts (Jensen et al., 2016; Murphy, 2015; Truffer et al., 2015).

A proper engagement with place-based transitions would have to recognize the ‘urban’ or ‘regional’ as holistic categories with emergent properties that warrant further conceptualization (Bulkeley et al., 2010; Frantzeskaki et al., 2017; Wolfram and Frantzeskaki, 2016). Such a reconceptualization would also help to advance transitions research beyond a focus on singular socio-technical systems. Instead, place-making inspired theorizing would explore how transitions are influenced by various regimes at once, all related to the multiplicity of infrastructure, consumption, and production activities that constitute places (Hodson et al., 2017; Konrad et al., 2008; Murphy and Carmody, 2019).

Space

Third, geography provides highly relevant theoretical inroads to explore the spaces and spatiality of transition processes. Here, the agenda paper rightly points to a need to further explore and explain the spatial variation in transition’s social, economic and ecological impacts. We also fully agree that the euro-centric, linear spatial diffusion models that underlie many MLP-based studies should be replaced with more variegated models of transition pathways that explicitly include and account for innovation processes in non-Western countries and developing/emerging economies (Hansen et al., 2018; Van Welie et al., 2018).

An additional area where conceptual cross-fertilization is well underway concerns the question under which conditions cities, regions or countries are able to branch into radically new (potentially more sustainable) development trajectories. Evolutionary economic geography (EEG), in particular, affords a sophisticated understanding of the ways in which the spatially uneven distribution of skills, technological capabilities and institutional capacities influence innovation and structural transformation potentials (Boschma et al., 2017; Boschma, 2017; Neffke et al., 2011). EEG provides robust evidence that regions and countries are most likely to move into new industries that are related to the pre-existing knowledge bases and capability portfolios (Hidalgo et al., 2018). In this context, in particular exploring the determinants of ‘long jumps’ into technologically and institutionally unrelated, more sustainable, development paths is a frontier that is of key relevance for both transitions and geography scholars (Binz and Diaz Anadon, 2018; Boschma, 2017; Grillitsch et al., 2018).

Outlook

This short discussion illustrates that an exciting theoretical agenda is emerging around the multi-scalar, place-based and spatial factors and processes that influence transition dynamics. Yet, to better understand and explain the geography of sustainability transitions, we need to combine the topical concerns mentioned in the agenda paper with a more serious engagement with current theorizing in human geography and related spatial theories in the social sciences. If successful, the GOST could develop into a research avenue, which is of crucial importance for understanding and supporting sustainability transitions in today’s digitalizing, urbanizing, and increasingly unequal world system.

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References

- Amin, A., Cohendet, P., 2004. Architectures of knowledge: Firms, capabilities, and communities. OUP Oxford.
- Bauer, F., Fuenfschilling, L., 2019. Local initiatives and global regimes – Multi-scalar transition dynamics in the chemical industry. *Journal of Cleaner Production* 216, 172-183.
- Binz, C., Diaz Anadon, L., 2018. Unrelated diversification in latecomer contexts—The emergence of the Chinese solar photovoltaics industry. *Environmental Innovation and Societal Transitions* 28, 14-34.
- Binz, C., Truffer, B., 2017. Global Innovation Systems—A conceptual framework for innovation dynamics in transnational contexts. *Research Policy* 64 (7), 1284-1298.
- Boschma, R., 2017. Relatedness as driver of regional diversification: A research agenda. *Regional Studies* 51 (3), 351-364.
- Boschma, R., Coenen, L., Frenken, K., Truffer, B., 2017. Towards a theory of regional diversification. *Regional Studies* 51 (1), 31-45.
- Bulkeley, H., Broto, V.C., Hodson, M., Marvin, S., 2010. Cities and low carbon transitions. Routledge.
- Coenen, L., Benneworth, P., Truffer, B., 2012. Toward a spatial perspective on sustainability transitions. *Research Policy* 41 (6), 968-979.
- Frantzeskaki N., Coenen L., Castán Broto V. and Loorbach D. (Editors), 2017. Urban Sustainability Transitions. Routledge, New York, NY.
- Fuenfschilling, L., Binz, C., 2018. Global socio-technical regimes. *Research Policy* 47 (4), 735-749.
- Grillitsch, M., Asheim, B., Trippel, M., 2018. Unrelated knowledge combinations: Unexplored potential for regional industrial path development. *Cambridge Journal of Regions, Economy and Society* 11 (2), 257-274.
- Hansen, T., Coenen, L., 2015. The geography of sustainability transitions: Review, synthesis and reflections on an emergent research field. *Environmental Innovation and Societal Transitions* 17, 92-109.
- Hansen, U.E., Nygaard, I., Romijn, H., Wieczorek, A., Kamp, L.M., Klerkx, L., 2018. Sustainability transitions in developing countries: Stocktaking, new contributions and a research agenda. *Environmental Science and Policy* 84, 198-203.
- Hidalgo, C.A., Balland, P., Boschma, R., Delgado, M., Feldman, M., Frenken, K., Glaeser, E., He, C., Kogler, D.F., Morrison, A., 2018. The principle of relatedness. *International conference on complex systems*, 451-457.
- Hodson, M., Geels, F., McMeekin, A., 2017. Reconfiguring urban sustainability transitions, analysing multiplicity. *Sustainability* 9 (2), 299.

Jensen, J.S., Fratini, C.F., Cashmore, M.A., 2016. Socio-technical Systems as Place-specific Matters of Concern: The Role of Urban Governance in the Transition of the Wastewater System in Denmark. *Journal of Environmental Policy and Planning* 18 (2), 234-252.

Köhler, J., Geels, F.W., Kern, F., Markard, J., Onsongo, E., Wieczorek, A., Alkemade, F., Avelino, F., Bergek, A., Boons, F., 2019. An agenda for sustainability transitions research: state of the art and future directions. *Environmental Innovation and Societal Transitions* 31, 1-32.

Konrad, K., Truffer, B., Voß, J., 2008. Multi-Regime Dynamics in the Analysis of Sectoral Transformation Potentials: Evidence from German utility sectors. *Journal of Cleaner Production* 16, 1190-1202.

MacKinnon, D., 2011. Reconstructing scale: Towards a new scalar politics. *Progress in Human Geography* 35 (1), 21-36.

Marston, S.A., 2000. The social construction of scale. *Progress in Human Geography* 24 (2), 219-242.

McCauley, S.M., Murphy, J.T., 2013. Smart growth and the scalar politics of land management in the Greater Boston region, USA. *Environment and Planning A* 45 (12), 2852-2867.

Murphy, J.T., Carmody, P.R., 2019. Generative urbanization in Africa? A sociotechnical systems view of Tanzania's urban transition. *Urban Geography* 40 (1), 128-157.

Murphy, J.T., 2015. Human geography and socio-technical transition studies: Promising intersections. *Environmental Innovation and Societal Transitions* 17, 73-91.

Neffke, F., Henning, M., Boschma, R., 2011. How Do Regions Diversify over Time? Industry Relatedness and the Development of New Growth Paths in Regions. *Economic Geography* 87 (3), 237-265.

Newell, P., 2019. Trasformismo or transformation? The global political economy of energy transitions. *Review of International Political Economy* 26 (1), 25-48.

Pierce, J., Martin, D.G., Murphy, J.T., 2011. Relational place-making: the networked politics of place. *Transactions of the Institute of British Geographers* 36 (1), 54-70.

Quitow, R., 2015. Dynamics of a policy-driven market: The co-evolution of technological innovation systems for solar photovoltaics in China and Germany. *Environmental Innovation and Societal Transitions* 17, 126-148.

Schot, J., Kanger, L., 2018. Deep transitions: emergence, acceleration, stabilization and directionality. *Research Policy* 47 (6), 1045-1059.

Sengers, F., Raven, R., 2015. Toward a spatial perspective on niche development: The case of Bus Rapid Transit. *Environmental Innovation and Societal Transitions* 17, 166-182.

Späth, P., Rohrer, H., 2012. Local Demonstrations for Global Transitions-Dynamics across Governance Levels Fostering Socio-Technical Regime Change Towards Sustainability. *European Planning Studies* 20 (3), 461-479.

Truffer, B., Murphy, J.T., Raven, R., 2015. The geography of sustainability transitions: Contours of an emerging theme. *Environmental Innovation and Societal Transitions* 17, 63-72.

Van Welie, M.J., Cherunya, P.C., Truffer, B., Murphy, J.T., 2018. Analysing transition pathways in developing cities: The case of Nairobi's splintered sanitation regime. *Technological Forecasting and Social Change* 137, 259-271.

Wieczorek, A.J., Raven, R., Berkhout, F., 2015. Transnational linkages in sustainability experiments: A typology and the case of solar photovoltaic energy in India. *Environmental Innovation and Societal Transitions* 17, 149-165.

Wolfram, M., Frantzeskaki, N., 2016. Cities and Systemic Change for Sustainability: Prevailing Epistemologies and an Emerging Research Agenda. *Sustainability* 8 (2), 144.