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Total number of authors:
19

Published in:
Environmental Innovation and Societal Transitions

Link to article, DOI:
[10.1016/j.eist.2021.10.026](https://doi.org/10.1016/j.eist.2021.10.026)

Publication date:
2021

Document Version
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

Citation (APA):

Torrens, J., Westman, L., Wolfram, M., Broto, V. C., Barnes, J., Egermann, M., Ehnert, F., Frantzeskaki, N., Fratini, C. F., Håkansson, I., Hölscher, K., Huang, P., Raven, R., Sattlegger, A., Schmidt-Thomé, K., Smeds, E., Vogel, N., Wangel, J., & von Wirth, T. (2021). Advancing urban transitions and transformations research. *Environmental Innovation and Societal Transitions*, 41, 102-105. <https://doi.org/10.1016/j.eist.2021.10.026>

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Environmental Innovation and Societal Transitions

journal homepage: www.elsevier.com/locate/eist

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ARTICLE INFO

Keywords:

Urban transitions
Urban transformations
Sustainability
Urban planning
Urban governance

ABSTRACT

Urban transitions and transformations research fosters a dialogue between sustainability transitions theory and an inter- and transdisciplinary research on urban change. As a field, urban transitions and transformations research encompasses plural analytical and conceptual perspectives. In doing so, this field opens up sustainability transitions research to new communities of practice in urban environments, including mayors, transnational municipal networks, and international organizations.

; UTT, Urban Transitions and Transformations; EIST, Environmental Innovations and Societal Transitions; STRN, Sustainability Transitions Research Network.

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<https://doi.org/10.1016/j.eist.2021.10.026>

Received 31 July 2021; Received in revised form 20 October 2021; Accepted 26 October 2021

Available online 5 November 2021

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1. Introduction

Achieving sustainability depends on delivering action at the urban scale. The urban transitions and transformations (UTT) research field analyses the role of cities in contemporary transformations (Hölscher and Frantzeskaki, 2021). The relationship between sustainability transitions and urban change became a focus of transition studies in the 2000s, when scholars pointed out that prevalent analytical approaches overlooked the dynamics of local action in cities and urban areas (e.g., Bulkeley et al., 2011; Frantzeskaki et al., 2017). Local action has always mattered to deliver global sustainability debates. Transition scholars focusing on the urban arena have demonstrated local actors' unique agency to facilitate experimentation and niche innovations (Bulkeley et al., 2015; Torrens et al., 2019). Since 2018, the Urban Transitions and Transformations thematic group within the Sustainability Transitions Research Network (STRN) has engaged actively in these debates.

This viewpoint reviews current debates in UTT research and proposes directions for advancing the field. Framing the field around transitions *and* transformations invites a dialogue with perspectives concerning sustainability transformations (Olsson et al., 2014), socio-ecological resilience (Elmqvist et al., 2019), and urban studies (Rutherford and Coutard, 2014). Transitions and transformations approaches have different entry points for analyzing radical systemic change towards sustainability, and thus, they generate multiple and innovative research avenues (Hölscher et al., 2018; Hölscher and Frantzeskaki, 2021).

2. New perspectives on space and transitions

The urban is not a neutral 'stage' for applying transitions research (Wolfram et al., 2019b). Perspectives such as relational geography and assemblage thinking question the urban as a passive scenario in which transitions happen (e.g., Bouzarovski and Haarstad, 2019; Blok, 2013). Such perspectives highlight dynamic interactions that elude conventional transitions research, especially the relationship between urban political processes, socio-spatial arrangements and scales, and the delivery of diverse types of experiments (Huang and Castán Broto, 2018; Torrens et al., 2019).

UTT research is revisiting transition debates' central assumptions such as socio-technical systems' obduracy (Moss, 2020; Rohracher and Späth, 2013) and the influence of the cities' material fabric on the possibility of change (Hodson et al., 2017; Castán Broto, 2019). Ongoing work surveying systematically and empirically different UTT types aims to analyze and consolidate these assumptions (Hölscher and Frantzeskaki, 2021).

3. Rediscovering nature in transitions

The central role of ecology in urban transitions is a critical theme in UTT research. Multiple and intersecting ecological crises, induced by (urban) human activity, increasingly threaten livelihoods and wellbeing in urban areas. The socio-technical networks that provision urban systems extend from socio-ecological systems further afield, which influence the resilience of urban life (Meerow and Newell, 2019).

In its engagement with urban ecology, UTT research emphasizes a regenerative turn in urban human-nature relations (e.g., Breuste et al., 2020; Elmqvist et al., 2021). This 'regenerative turn' refers to both attempts to reimagine socio-ecological relations beyond current economic systems (e.g., Hatala et al., 2019; McMillen et al., 2020) and deliver practical insights for policy and planning in, for example, the design of the circular economy (Fratini et al., 2019). Nature-based solutions and green-blue infrastructures require shifting mindsets and challenge power relations (Dignum et al., 2020; Frantzeskaki et al., 2019). Urban political ecology approaches, in turn, show that experimentation involves fraught processes of reconfiguring material flows (e.g., Gopakumar, 2014). Increasing efforts at securitizing the urban environment often negatively impact disadvantaged populations and challenge resilience (UN-Habitat, 2020).

4. Politics of urban change

Urban history has demonstrated the risks of grandiose visions (Cugurullo, 2018; Hodson et al., 2017). Modern cities were built through brutal processes, such as slum clearance, red-lining, and mass displacement, riddled with class struggles, racial violence, discrimination, and marginalization. Urban history offers essential lessons for transition scholars. Claims of sustainability and inclusion deserve much scrutiny and engagement with critical urban and planning scholarship (e.g., Anguelovski et al., 2018; Wachsmuth et al., 2015).

UTT research highlights multiple 'loci' for politics around intersecting questions of place, identity, representation, recognition, and legitimacy (Grandin et al., 2018; Raymond et al., 2021). UTT must analyze the impactful changes happening under rapid urbanization, in postcolonial contexts, and outside the global circuits of urban knowledge (e.g., Ghosh and Schot, 2019). Studying transitions in or from 'elsewhere' (c.f. Bridge, 2018) demands engagement with feminist and decolonial practices (Robin et al., 2020; Swilling, 2020). Just transitions call for radical politics of recognition that challenge structural systems of oppression and discrimination sustained in plural epistemologies (Fratini et al., 2019).

5. Planning and governing change

Planning and governance systems reproduce models of urban development that intensify ecological pressures and social injustices (Rapoport, 2014). Cities often lack the 'urban transformative capacity' to initiate and navigate transformation processes (Wolfram et al., 2019a). Incumbent and insurgent actors that mobilize urban experimentation can rekindle urban development (Grin, 2020;

Scholl and De Kraker, 2021). Future research should explore whether efforts to transform urban governance and planning regimes are succeeding or mobilizing the (often unwieldy) multiplicity of actions already taking place (Bulkeley, 2021; Westman and Castán Broto, 2021).

The visions and imaginaries informing governance deserve further scrutiny. Dominant imaginaries of smart, healthy, circular cities are not bridging the sustainability gap (de Jong et al., 2015; Fratini et al., 2019; Hajer and Versteeg, 2019). UTT research demonstrates that alternative imaginaries follow transdisciplinary and co-creative engagement (Frantzeskaki et al., 2018). Critical reflections on existing paradigms are a means to build radical pathways towards sustainable urban futures (Hajer and Versteeg, 2019).

6. New research openings

UTT research intends to accelerate and nuance the responses to the climate crisis and global environmental change. Its findings enrich transition studies at large, benefiting the wider sustainability transitions community in the context of rapid urbanization. The EIST journal has led UTT research and is uniquely positioned to reflect new research openings. UTT research will benefit from perspectives beyond established transition approaches. Strategic interdisciplinary reviews have an important role here in enabling focused explorations through conceptual or empirical studies. UTT research also proposes to address the overrepresentation of Anglophone and Eurocentric scholarship in transitions research. Alternative perspectives on transitions have been silenced by global patterns of discrimination and inequality in knowledge production. In doing so, UTT research recognizes the plurality of knowledge relevant to transitions research and opens the field to new audiences that are yet to engage with sustainability transitions.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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