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EDITORIAL



Transformation through transdisciplinary practice: cultivating new lines of sight for urban transformation

ABSTRACT

In this editorial introduction, we introduce the special issue “Transforming Urban Sustainability”, which seeks to understand the pursuit and practice of transformative change for urban sustainability. Uniquely, the contributions to the Special Issue were developed through transdisciplinary collaborations and in this editorial we reflect on these practices and consider how they can catalyze transformative change in and through academic practice. We also review existing conceptual approaches to transformation and develop a heuristic device that helps us to appreciate its multiple and diverse dimensions. Through this heuristic, we generate lines of sight through which to view transformation and position the contributions in the Special Issue in relation to these. We conclude by suggesting that to advance both the understanding and traction of transformative action we need to recognise its multiplicity and actively engage with its different facets.

KEYWORDS

Transformation;
transdisciplinary;
sustainability; SDG11
Sustainable Cities and
Communities; SDG13
Climate Action

Introduction

Storms, floods, heatwaves, and choking smog: cities around the world are already living with the effects of a changing climate and degraded environment. In response, more than 2,300 local and regional jurisdictions have formally declared climate emergencies (Climate Emergency Declarations 2023). And yet, despite these declarations and nearly three decades of urban initiatives to address climate change, there remains a persistent concern that urban climate action may at best lack sufficient urgency and at worst exacerbate existing urban inequalities while falling short of addressing the dire challenges faced. At the same time, reflecting on the scale and severity of the increasingly intertwined climate emergency and global loss of nature, recent reports from the Intergovernmental Panel on Climate Change (IPCC) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) highlight an urgent need for *transformative* action (IPCC 2023). As Rosenzweig and Solecki (2018, 756) describe, “the term ‘transformation’ is invoked to describe what cities must do to simultaneously improve climate resiliency and achieve the positive effects of low-carbon sustainable development”. Yet while momentum behind the discourse of transformative change has gathered pace (O’Brien 2018), there remains a lack of coherence and some confusion as to what transformation might entail and how it can be realised within the necessary timescales. Indeed, to echo a question posed by Susannah Fischer, “if we have figured out transformation, why is the world still in such a mess?” (Fisher 2019).

This special issue seeks to understand the pursuit and practice of transformative change for urban sustainability. The articles are collaboratively written, pairing practitioners working in the global South (including UN-Habitat, ICLEI-Africa, C40, and the World Resources Institute) with researchers focused on urban climate and environmental governance. The author teams draw on their range of knowledge and their diverse experiences to consider the conceptual challenge of defining transformation and the practical challenge of stimulating transformative action in cities. Whilst

transdisciplinary research and processes of co-production are increasingly popular across the research field of urban sustainability, often such efforts are directed to the initial phases of the design and implementation of research-practice projects. Rarely is analysis, conceptual development, and/or the dissemination of such knowledge to academic and policy audiences through peer reviewed work undertaken. Here we adapt a different approach: rather than working together to co-produce research projects in a transdisciplinary manner, we have sought to develop a mode of working in which the outcomes of diverse projects can be brought into conversation with one another. Our hope is that transdisciplinary writing processes such as these can act as crucial means through which fuller understandings of transformative change can be developed and shared across diverse communities.

In addition to cultivating transdisciplinary practices, this special issue also develops an account of transformative change that appreciates its multiple dimensions and opens space for thinking about transformation in diverse ways. Noting its inherent complexity and sense of accompanying mystery (Ziervogel, Cowen, and Ziniades 2016), there can be no one size fits all account of what it will mean to undertake the kinds of transformative action required. Instead, through setting out the diverse approaches which are being pursued in the name of transformation and deepening our understanding of what this means in the context of the global South, we hope that this special issue can contribute to the ongoing debate and challenge of realising transformative change on the ground.

Varieties of transformation

Despite the abstract meaning of transformation, there is an emerging consensus about its necessity, and use of the term is growing in global policy and practitioner circles. Calls for transformation feature prominently in the IPCC's most recent Assessment Report (IPCC 2023) and the need for urban sustainable transformation was a central takeaway of the 2018 IPCC Cities and Climate Change Science Conference (Bai et al. 2018; Solecki et al. 2018). Moreover, a key message emerging from the recent Global Assessment Report from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) was that "goals for conserving and sustainably using nature and achieving sustainability ... may only be achieved through transformative changes across economic, social, political and technological factors" (Díaz et al. 2019, 6). So great is the IPBES's appreciation of the need for transformative change that in fact, the scientific body is currently preparing an assessment report specifically examining transformation. Finally, in 2016, mayors and representatives of European cities and towns signed the Basque Declaration, committing to socio-cultural, socio-economic, and technological transformation towards sustainability (*The Basque Declaration: New Pathways for European Cities and Towns* 2016).

In light of the term's increasing usage and prominence in global and local policy conversations, there is a danger that it will become an empty signifier: doing much of the heavy lifting required to signal the importance and urgency of change, whilst at the same time saying little about what might be involved (Westman and Castán Broto 2022; Iwaniec et al. 2019). To ground the concept, both theoretically and practically, we suggest that it is vital to understand its multiple manifestations and to develop a heuristic that allows those seeking to enact transformative change to orient their approach in relation to other perspectives. In short, there is a need to both map the landscape and provide a means through which we can recognise where our own perspectives lie as well as what they might obscure or negate. Only by critically revealing the situatedness of any one transformative approach can we begin to confront their limitations and, in doing so, hope to avoid promoting hegemonic conceptions of transformation which undermine its radical potential (Westman and Castán Broto 2022).

While several discussions of what constitutes transformative change focus on the dynamics of change itself – abrupt or gradual, radical or incremental, linear or non-linear, smooth or turbulent (Fazey and Leicester 2022) – O'Brien (2018, 154) points out what is really at stake in the pursuit of transformative change is what it is that interventions are intended to solve or address. Drawing

on Heifetz, Grashow, and Linsky (2009), she suggests that at the heart of the debate on transformation is whether the problem at hand is viewed largely in *technical* terms or in *adaptive* terms, or in other words whether problems are considered to be solvable through the application of knowledge, technology and management or whether this requires the adaptation of existing norms, beliefs and worldviews.

In this special issue we both build upon and challenge this approach. We agree that at the heart of the issue of transformation is the matter of what it is that is seen to be in need of transformation and how this is pursued. However, we suggest that a focus on the “adaptive” tends to privilege the realm of ideas and discourses at the expense of cultural political economies, and that the binary between *technical* and *adaptive* is itself rather too straightforward. Instead, we suggest that there are two central axes around which the notion of transformation revolves. First is the matter of whether the problem lies within the *systems* through which socio-material domains are ordered, organised, and maintained, or whether it is with the *structures* that condition these relations. Second is the issue of whether solutions are to be found in changing the *means* through which change takes place – decision-making, knowledge generation, policy implementation and so forth – or whether solutions require some form of *distributional* reconfiguration, such that both the nature of socio-material conditions and how and with what consequences they are experienced are altered. These are not either/or choices, but rather lines of sight through which transformation is viewed and enacted, and how what constitutes successful transformative change is determined (see Figure 1).

Both the socio-ecological systems and socio-technical systems approaches tend to work with a *systems* perspective on transformation, conceiving of it both as a systemic property (Wolfram 2016) and as a potential system outcome (Wolfram and Frantzeskaki 2016). In the case of socio-ecological systems approaches, new environmental pressures or social interventions in the system

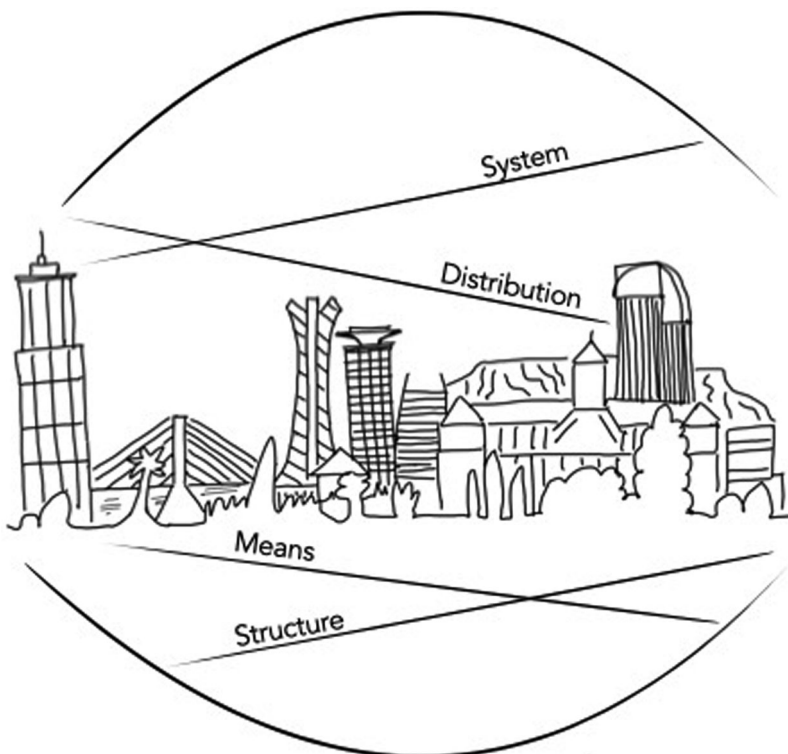


Figure 1. Transformational Lines of Sight

might generate transformative outcomes while in socio-technical systems approaches, transformation may emerge as a result of dynamics between niche innovations and landscape pressures. For both approaches, system change is achieved through some level of disruption and the reorganisation of socio-material orders, with a particular focus in socio-technical systems literature on how such dynamics help to “undo” lock-in and the ways in which transformation occurs through changes to the relationships among the technologies, infrastructures, policies, governing institutions, markets and user practices that constitute an unsustainable sociotechnical system (Fuenfschilling, Frantzeskaki, and Coenen 2019; Hölscher, Frantzeskaki, and Loorbach 2019; Burch et al. 2014). As a supplement to this approach, work on “transformative capacity” which Wolfram, Börjström, and Farrelly (2019, 440) define as “an evolving collective ability to conceive of, prepare for, initiate and perform path-deviant urban change,” examines the underlying properties of a system which can support it in achieving transformative outcomes.

Structural approaches to transformation, however, tend to assume that climate or environmental action cannot be transformative without changes to the underlying social, political, or economic structures through which such problems are produced (Pelling 2011; Pelling, O’Brien, and Matyas 2015; Satterthwaite 2014). Rooted in or complementing the literature on urban political ecology (Swyngedouw and Kaika 2014), such approaches begin with the acknowledgement of injustices and the tracing of uneven landscapes of power relations (Henrique and Tschakert 2021). Here, the problem to be addressed does not so much lie within individual systems, sectors, or ecologies, but is more pervasive, connecting notions of identity, the things we value, relations to the future, forms of political economy, and so forth which themselves are regarded as requiring fundamental political change if transformative outcomes are to be realised. This highlights how transformation is not so much an outcome as it is an ever-unfolding and highly political process of redistribution and reprioritization (Castán Broto et al. 2019). This is not to suggest that those advocating for systemic transformation do not also recognise the important way in which such processes are constrained (and enabled) through existing socio-material structures, or indeed that those calling for structural transformation do not also recognise the significance and value of achieving transformation through existing socio-ecological or socio-technical systems. Rather it is to say that depending on which issues are brought into focus, the scope, leverage points and challenges of transformation will be seen in a different light, and pathways towards these goals struck differently.

The second axis around which transformation debates on usually turn has to do with what the outcomes of transformative change will involve, or in short – how will we know transformation when we see it? For some it is the *means* through which the change takes place that are a vital site for transformation and where solutions are to be found. Here we can find arguments both that such means need to be transformed in and of themselves – new forms of knowledge, decision-making, participation, representation and so forth are an essential ingredient of what it means for our responses to these issues to be transformative – and also that such a transformation in the means of change is essential for achieving other kinds of goals (Wamsler et al. 2020; Seyfang and Haxeltine 2012; Laycock and Mitchell 2019). The now-extensive literature on the potential of co-production, transdisciplinarity, participatory democracy and so forth for realising sustainability is characteristic of this perspective on transformative change (Suboticki et al. 2023; Abson et al. 2017; Fazey et al. 2018). Yet for others, such shifts in the means of achieving change are neither sufficient nor clearly linked to the kinds of outcomes that would signal that authentically transformative change has taken place. These debates focus on the extent to which material and social outcomes have been *redistributed* in transformational ways, either in terms of the extent to which environmental challenges have been addressed, or in terms of how, by and for whom solutions have been effective, the ways in which rights and responsibilities for achieving change have been recalibrated, or the costs and benefits of inaction have been reconfigured (Bulkeley, Edwards, and Fuller 2014; Revi et al. 2014; Patterson et al. 2017).

These facets of transformative change are interrelated in complex ways – no single perspective can provide a clear line of sight as to what the destination of transformative change might look

like. At the same time, in adopting particular perspectives, those seeking to advocate for or intervene to achieve transformative change may find that their view of other approaches is obscured. In order to strengthen and deepen our work on transformative change, we suggest that a heuristic device that enables us to locate where our perspective is coming from and how we might further other dimensions of transformative change could be helpful.

Exploring transformation through transdisciplinary practice

Collectively, the articles in this special issue present important insights into the diverse practices and contentious politics of urban transformation. They develop their insights through explorative transdisciplinary practice, undertaking shared analysis of evidence and experiences that have been generated across a range of policy-orientated, project-based or academically crafted initiatives. In so doing, they seek to develop new ways of understanding how the capacities for and processes of transformative change are generated.

Undertaking such research is not easy: transdisciplinary author teams had to balance the competing demands and expectations of their various professions and roles and often crafted individualised approaches to authorship which suited their particular collaborative team. But if transdisciplinary writing and authorship is challenging, publishing such research is even more so. For one, finding publication venues can be difficult as the objectives of this research do not always conform to the scope and foci of traditional academic journals. More centrally, securing reviews for transdisciplinary research is challenging as reviewers are reticent about how to evaluate the often atypical form and substance of this work. For this special issue, the processes of writing and peer-review occurred during the beginning and height of the COVID-19 pandemic, leading to even greater challenges in securing reviewers for these articles. And yet, in spite of, or perhaps because of, these challenges, we ended up undertaking our own efforts to support transformational research and publishing in *Local Environment*. With the journal's editorial team, we have introduced practice reviews as a new accepted format within the journal, recognising the value of practice-generated insights and knowledge and institutionalising support for such research. The hope is by formalising the place of this work within the journal, we can contribute to shifting the culture of academic research which currently presents such high barriers to writing, publishing, and sharing transdisciplinary research. It is our belief that research should be both reflective of *and* integral to transformative change (Ernstson and Swyngedouw 2018) and that alternative practices of knowledge generation are a productive way forward in this effort.

The six papers contained within this special issue engage in various ways with the four transformational "lines of sight" we describe in the previous section. Both the papers by Fox et al. and Estrada et al. attend to the structural dimensions of transformative change. In their study of community-based adaptation in Cape Town's informal settlements, Fox et al. identify how differing understandings of the permanence or impermanence of informal settlements shape how key actors diagnose the drivers of flood vulnerabilities and envision transformative adaptation. The paper illustrates the ways in which means-oriented approaches to transformation can fall short when structural considerations are not taken into account and highlights the importance of recognising wider structures of domination when it comes to implementing even well-intentioned processes of inclusion. Estrada et al.'s account of the SWaCH initiative in Pune, India—a predominantly-female social cooperative of waste pickers—notes how initiatives which fail to appreciate the intersections of gender, caste, and class risk "unwittingly reinforcing these inequalities" and argues that when structural issues are recognised and emphasised, significant change can be achieved. The paper examines the SWaCH initiative as a compelling case of transformation through its pursuit of multiple social, economic, and environmental benefits: combatting the feminisation of poverty in Indian cities, challenging the discrimination of waste pickers through their formal partnership with the municipality, and enhancing the efficacy of waste management through horizontal and cooperative governance models.

Tozer et al's paper examines the importance of multilevel cooperation in achieving systemic transformation in African cities. Using a novel and alternative conception of "upscaling", they examine how the enrolment of actors across levels enhanced the transformative potential of major infrastructure projects in four African cities. In contrast to approaches which consider upscaling horizontally, in terms of a project's replication in new places, the paper highlights the enabling factors which deepen a project's ability to foster systemic transformation, pointing to the importance of multilevel relations between cities, nation states, and international organisations for enhance the transformative potential of projects already underway.

Across the second axis, the papers by Rochelle et al. and Kavonic and Bulkeley illustrate the interplay among approaches to transformation focused on means and those focused on redistributive outcomes. Rochelle et al. reflect on ICLEI's "Local Action for Biodiversity- Wetland South Africa" project and demonstrate how critical processes are to the realisation of transformative outcomes, emphasising the importance of political buy-in, policy champions, and underlying institutional capacity in implementing transformative objectives. Their paper also highlights the importance of considering structural factors in transformation and encourages transnational municipal networks to attend to the underlying causes of urban environmental risks, including livelihood structures and socio-demographic factors. Kavonic and Bulkeley examine another ICLEI project, the Urban Natural Assets (UNA) programme in Dar es Salaam, Tanzania, and identify a middle path to transformation between means-oriented and distribution-oriented approached in which the focus becomes building transformative *capacities*. They argue that the UNA programme's transformative impacts came through building individual and collective transformative capacities which enabled key actors to continually reimagine the goals of transformation, created institutional spaces of experimentation where it was "safe to fail", and established processes and relationships of knowledge co-production which revealed multiple perspectives on and sites for transformation. Their focus on building transformative capacities also highlights how transformative change can be fostered through incremental, rather than rapid, shifts.

Finally, Lecavalier et al. discuss the governance modes through which urban transformation is pursued and consider whether and how benchmarking can support or hinder transformation. Their examination of two benchmarking initiatives finds mixed results: while the process of reporting to benchmarks can encourage learning and help build relations between cities and global organisations it can also exclude low-income cities who lack the capacity to participate. Moreover, the goals benchmarks are calibrated to pursue can also reinforce the status quo and exclude issues of climate justice. Ultimately, they argue that benchmarks should be one among a mix of policy tools used in the pursuit of urban transformation.

By viewing transformation from multiple vantage points—from the streets and wetlands of emerging cities to the meeting rooms and offices of transnational NGOs and multilateral development banks—the articles within this special issue help to extend and deepen our understanding of the complex concept of transformation and see how its practice is unfolding in diverse urban contexts. We find that while many interventions or forms of academic inquiry start with a view of transformation that is focused on the means through which it can be achieved, other dimensions of transformation are never very far from the surface and the most successful projects are able to harness this complexity to achieve change. In contrast, where the multiplicity of transformative change is not addressed, their potential either dwindles or is actively resisted. In conclusion, we suggest that to advance both the understanding and traction of transformative action we need to recognise its multiplicity and actively engage with its different facets. Understanding how, why, and with what result urban action is being positioned in relation to these two axes of the debate on transformation is crucial if we are to understand the possibilities and challenges that lie ahead for cities as they seek to fulfil the roles that are increasingly being allocated to them within global environmental governance.

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