

Smart cities: Between worlding and provincialising

Ryan Burns 

University of Calgary, Canada

Victoria Fast 

University of Calgary, Canada

Anthony Levenda 

University of Oklahoma, USA

Byron Miller 

University of Calgary, Canada

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Abstract

We introduce key concepts that have guided the diverse case studies of this special issue on smart cities. Calling into question Global North conceptions of the smart city, nine different articles analyse smart city projects around the world, with particular attention paid to the need to provincialise our understanding of these projects as well as to consider their relationship to worlding strategies. These case studies demonstrate the diversity of what smart cities can be and the need to consider, through comparative analysis, the broader power geometries in which they are imbedded.

Keywords

case studies, comparative analysis, provincialising, smart cities, worlding

摘要

我们介绍一些关键概念，这些概念指导了本期智慧城市特刊中的各种案例研究。九篇不同的文章对全球北方智慧城市的概念提出质疑，并分析世界各地的智慧城市项目，特别是关注对这些项目的认识的地方化、以及考虑它们与全球化策略的关系必要性。这些案例研究展示了智慧城市的多样性可能性，以及通过比较分析来考虑智慧城市嵌于其中的、更广泛的权力几何学的必要性。

关键词

案例研究、比较分析、地方化、智慧城市、全球化

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Introduction

This special issue is situated at an unusually complex theoretical juncture. It is positioned within the growing critical literature on smart cities; it highlights case studies from various world regions to address the persistent lack of smart cities literature outside of the Global North; and it engages theoretically with the tensions between worlding and provincialising processes in smart city development and deployment. The smart city trope is promulgated and adopted not only by tech corporations and inter/national and municipal governments, as one might expect, but also by economic development interests, consumers, citizens and political actors of various stripes. It is becoming increasingly evident that the smart city phenomenon takes on different meanings and manifestations in different socio-political contexts around the world, and that common processes may operate with disparate effects in different places. Smart city programmes have become a global phenomenon, with the diversity of initiatives matched only by the diversity of contexts, objectives, means of implementation and outcomes. Yet, while this complexity manifests across the range of case studies marking the literature, its summative implications are under-theorised and the linkages between the cases remain tentatively ambiguous.

More broadly, in recent years the field of urban studies has been critiqued for constructing universalising principles largely from Western, industrialised and wealthy urban centres of global capital. This critique is not a mere quantitative concern of representation and inclusion, but an epistemological

concern that *norms* are construed from *exceptional* cities – with notes of intellectual colonialism thrown in the mix. Calls to ‘provincialise’ urban studies seek both to elucidate the Eurocentric origins and dominance of urban theory and to re-build urban theory from the global ‘margins’. Parallel to provincialisation are the processes by which cities poise themselves as actors within the global circulation of culture, capital and innovation – what scholars have termed ‘worlding’. In smart cities, one observes both processes working simultaneously, with complex, sometimes contradictory, always uneven and under-theorised implications.

The rest of this Editorial proceeds as follows. We begin by briefly recapitulating the breadth of smart cities definitions currently in the literature – focusing on smart cities as capitalist, discursive and governance strategies – foreshadowing the challenges of drawing out common processes from particular cases. We then elaborate on our conceptions of provincialising and worlding – touchstones for all of the case studies – signalling what we see as the promises of combining these processes in an analytical framework. After summarising the broad cross-cutting themes tying together the articles in this special issue (urbanism, governance and social justice), we conclude by suggesting a need for comparative analysis to generate new insights into smart cities, an idea fleshed out in the concluding article of this special issue.

What makes the city smart?

No lack of ink has been spilled to define the phenomenon of ‘smart cities’. A plethora of definitions and conceptions already mark

Corresponding author:

Byron Miller, Department of Geography, University of Calgary, 2500 University Drive NW, Calgary, AB T2N 1N4, Canada.
Email: bavrmill@ucalgary.ca

the field; this is less a symptom of an emerging field of inquiry and more an indication of the complexity and interests of the phenomenon. Most scholars have in mind some variant of Kitchin et al.'s (2015) broad understanding of smart cities as both the urban planning and administration project of embedding digital technologies into the urban fabric, and a reconfiguration of digital urban economies. This formulation expands from Townsend's (2013) conception of smartness as merely the digital instrumentation of urban spaces for efficiency, sustainability and greater citizen participation. While these generic definitions underlie a great deal of the literature, numerous specific definitions provide less clarity. For instance, Albino et al. (2015) conducted a literature review that concluded that no small number of definitions are commonly employed – in other words, the field is characterised less by consensus than by heterogeneity, a quality that continues to adequately capture the state of today's scholarship. Likewise, De Jong et al. (2015) show that 'smart' as a qualifier, developed alongside many other related terms such as sustainable, eco-city, resilient and knowledge cities.

These, and the many other articles that seek to define smart cities (e.g. Caragliu et al., 2011; Kitchin et al., 2019), have identified three foci for smart cities research: critiques of smart as a capitalist strategy; the unpacking of smart as a discursive strategy; and the use of smart cities to achieve varied modes of governance. First, many have highlighted the ways that private sector companies have pushed the smart city agenda as a way of developing new markets and valorising increasingly pervasive aspects of everyday urban life (Hollands, 2015; March, 2018; Sadowski, 2020). This political economy, grounded in technological utopian imaginaries and fears of future crises (White, 2016), fundamentally underwrites new waves of neoliberalism and accumulating capital

(Cardullo and Kitchin, 2019; Grossi and Pianezzi, 2017).

Second, this political economic tendency is underwritten by the development of new discursive strategies. The smart city is a normative framing of what the urban should be, underscoring the potentialities for digital technologies in urban processes (Söderström et al., 2014). It claims both to represent the future of what cities should be and to be anticipating the future (White, 2016; Wiig, 2015); and it also claims to hold the keys to modernity, particularly for cities in the Global South (Datta, 2015, 2018; Watson, 2015). The smart city is, according to Luque-Ayala and Marvin (2015: 2105), 'deeply rooted in seductive and normative visions of the future where digital technology stands as the primary driver for change'.

Third, the smart city is positioned within, and subtends, the growing prevalence of surveillance and new extensions of governmentality. Surveillance systems such as facial recognition, closed-circuit television cameras and data trackers did not begin with smart cities, but found productive co-articulation within them (Cheney-Lippold, 2018; Gabrys, 2014; Kitchin et al., 2015; Vanolo, 2014; Zuboff, 2019). The deepening relations between data, profit, surveillance and governance have been explored under numerous theoretical frameworks, including critical data studies (Kitchin et al., 2016; Pickren, 2018), digital colonialism (Couldry and Mejjias, 2019; Mouton and Burns, 2019; Thatcher et al., 2016) and surveillance capitalism (Maalsen and Sadowski, 2019; Zuboff, 2019). Research in this area notes that different forms of subjectivity and citizenship are co-produced with smart cities (Burns and Andrucki, 2020; Ho, 2017; Rose, 2017; Sadoway and Shekhar, 2014; Williamson, 2015). More broadly, smart cities have seen broad purchase within literatures on governance experimentation (Cugurullo, 2018; Halpern and Günel, 2017; Levenda, 2019b)

and policy mobilities (Levenda, 2019a; Wiig, 2015).

While this vast and growing literature has demonstrated the development and critique of smart cities in contemporary urban theory, there is great diversity in smart city initiatives around the world. Cities exist in a world of globally circulating ideas and practices, and these ‘worlding’ forces must be understood relationally. At the same time, this highlights the need to ‘provincialise’ theoretical understandings of the smart city. Next, we situate and contextualise smart cities within the worlding and provincialising literature.

Between provincialising and worlding

The idea of ‘worlding’ denotes the ways that cities assert their local economy and culture as positioned within global flows of capital, people and information (Baker and Ruming, 2015; Blok, 2014; Jayne et al., 2011; McCann et al., 2013; Roy, 2011; Simone, 2001). Worlding can be seen as an outcrop of traditional scholarship on ‘global cities’ like New York, London and Tokyo: ‘the concept of worlding seeks to recover and restore the vast array of global strategies that are being staged at the urban scale around the world’ (Roy, 2011: 10). Because so much recognition, capital and human resources flow in and through such world cities, other more marginal cities strategically claim their own position within those global networks; their goal is to redirect these flows through their own cities. Worlding practices often include comparison and inter-referencing – cities in the Global South comparing themselves to the Global North, small marginal cities in the Global North comparing themselves with major cities in the Global North and so on – that are productive of particular kinds of urbanism, often through modernising projects, new governance regimes

and trials with neoliberalism and market building (McCann et al., 2013; Roy, 2011). Many smart city initiatives mobilise worlding strategies.

In contrast, ‘provincialising’ signals a theoretical shift towards understanding the variegated nature of social processes, in this case (smart) urbanism, often looking to the peripheries and specific contexts to destabilise norms of universalist (and often Global North) knowledge production and strategy (Lawhon et al., 2014; Leitner and Sheppard, 2016; Sheppard et al., 2013). Sheppard et al. (2013: 895) explain that ‘[p]rovincialising global urbanism means identifying and empowering new loci of enunciation from which to speak back against, thereby contesting, mainstream global urbanism’, and that this entails ‘multiple potential meanings that share the goal of deconstructing what we think we know, disrupting norms about what is familiar and what is strange’. Provincialising might entail forms of resistance to corporate-led smart cities agendas and the mainstreaming of alternative forms of smart urbanism. But what do these processes look like? Are they located only in the Global South? What forms of provincialising smart urbanism might lead to redefining smart cities more generally? And how does provincialising help us deconstruct imaginaries of smart cities that further uneven development?

These seemingly contradictory notions of provincialising and worlding, however, are best understood as complementary. Their complementarity is captured in Massey’s (1994) notion of a ‘global sense of place’, in which place-specific cultural and material experiences are understood as the product of global flows of practices, values, migration and economy, converging in particular places. The specificity of particular places means that they must be considered unique not in an absolute sense, but rather in their nexus of relationships. Indeed, notions such

as ‘Global South’ and ‘Global North’, when not taken as essentialised regions with distinct characteristics, imply a relational understanding: the Global South can be found in the Global North, and the Global North in the Global South.

Provincialising and worlding encounter productive tensions, implying that we need more deeply relational and comparative perspectives in scholarship on smart cities. Recent scholarship on comparative urbanism has encouraged methodological reflexivity in conceptions of globalisation and postcolonial theory, and has questioned the ways that urban spaces, policies and subjectivities are created in relationship to knowledge and best practices from elsewhere (Jacobs, 2012; McFarlane, 2010; McFarlane and Robinson, 2012; Peck, 2015; Robinson, 2014, 2016). Policy mobilities (McCann, 2011) and assemblage urbanism (McFarlane, 2011a, 2011b) approaches similarly illuminate the myriad ways that the city is brought together through situated and contingent sets of power relations, practices, ideals, norms and visions. Such perspectives are needed for smart cities research.

Themes in this special issue

This special issue collects articles from diverse perspectives and geographies, offering insights into how tensions between worlding and provincialising can deepen our understanding of smart cities’ social and political foundations, relations and impacts. The articles raise theoretical and epistemological issues critical to understanding how smart city projects may shape not only the future of urbanism, but power relations and social (in)justice more generally. Notably, each case is located outside the prototypical smart cities projects such as Songdo in South Korea or Hudson Yards in New York City. Most of the case studies present ordinary cities, outside the ranks of elite global cities,

that seek to provincialise the smart city concept to their own contexts. Simultaneously, they also raise productive tensions by showing an innate desire to become more globally recognised players in the information and high technology industry, attracting outside capital. Indeed, as Mouton (2020) demonstrates in his exploration of a new Philippine smart development, New Clark City typifies many Global South smart real estate development projects, with smart initiatives used as a marketing strategy to attract Global North investment and labour. Yet at the same time, New Clark City illustrates provincialised modes of underdevelopment in the Philippines, a splintered urban landscape of technological haves and have-nots.

Urbanism is a common theme throughout the cases, as the smart city is presented as on the one hand an opportunity to participate in a globally recognised system of ‘urban improvement’, and on the other a way to demonstrate the particular practices and models that give a local smart city project its importance and unique character. This theme holds true across geographical contexts. In Santiago, Chile, Jirón et al. (2020) highlight the tension between a desire for situated (provincialised) urbanism and global smart city ideals, showing that the outcome of ‘award-winning’ smart city initiatives is merely placebo urban interventions that emulate world-class cities with reproduced but locally untenable aesthetics. Chang et al. (2020) argue that the smart city is employed as a political strategy for urban regime transition through the example of Taipei’s Ko administration, demonstrating the way the worlding project of smart urbanism, embedded in a global landscape of fast policy, takes on local character as it is mobilised within local urban regimes. Similarly, Charnock et al. (2019) describe the ways in which various Barcelona administrations have embraced the techno-utopian vision of smart technologies to market their

city. Their marketisation practices highlight the city's strong tradition of grassroots activism, civic participation and alternative economies, each of which the city claims is accentuated by digital potentialities.

Breslow (2020) complicates this trend with attention to how the global/worlding dimension is in fact a seamless part of the provincialised urban design and aesthetic of Dubai. A core aspect of what makes Dubai distinct, Breslow argues, is a worlding strategy built on totalising neoliberal governance, the enforced production of neoliberal subjectivity and the erasure of non-market social relations. What is provincial in contemporary Dubai is the sheer pervasiveness of its neoliberal order, enforced through smart surveillance techniques. Conversely, Odendaal (forthcoming) foregrounds local dynamics and place-specific characteristics in her account of two social movements based in Nairobi and Cape Town. In Nairobi, the MapKibera initiative uses online and analogue geographic documentation to improve slum conditions and visibility. In Cape Town, Reclaim the City uses digital documentation and public events to pressure local authorities to address affordable housing issues. In both cases, there is virtually no attention to worlding; rather, attention is turned to locally specific struggles, although these struggles and their purported solutions are framed through global technological imaginaries. In this provincial account of smart city strategies, Odendaal focuses on civil society organisations utilising digital and analogue technologies, highlighting the different processes and uses of digital technology in sectors of society beyond the state and capital.

All of the articles account for power relations in different ways. Across the articles, we see different analyses of power, with explorations of subjects ranging from neoliberal governmentality (Breslow, 2020) to splintered and uneven development and the digital divide (Jirón et al., 2020; Mouton,

2020; Spicer et al., 2019) and growth machine politics (Chang et al., 2020). This is familiar terrain for analyses of smart urbanism and smart cities projects, yet each article has its own conceptualisation within the worlding and provincialising frames. Curran and Smart (2020) develop the notion of *risk-class* as a fundamental social category produced and circulated within Chinese smart city contexts. Risk-classes form separately from one's relation to capital – as is the key axis for understanding the Marxian sense of *class* – and are instead related to characteristics of individuals that have been 'quantified' via digital technologies of web usage, facial recognition and social/financial capital practices. Irazábal and Jirón (2020) explore how northern theories of smart urbanism privilege ideas of efficiency and economic development while missing important emphases on ecology, equity, education and engagement (their 6-Es framework) with respect to smart cities in the Global South. Through vignettes on Rio de Janeiro, Santiago and Medellín, they emphasise that people – and not technology – are at the core of the smart city. Spicer et al. (2019) demonstrate the way the smart city discourse and technology influence remote and rural communities in Canada. By examining challenges and opportunities of smart cities technologies for these communities, they shed light on a systemic problem of digital divides. Spicer et al. argue that remote and rural communities should lean into collaboration and cooperation to scale and build smart cities in line with community values.

Complementing these analyses of urbanism and power, the articles further grapple with resistance to dominant conceptualisations of 'smart'. Contributors to this issue map out current struggles and opportunities for alternatives emerging in different global contexts, a theme that provides hope in a landscape of increasingly concerning surveillance power in the hands of an alliance

between the state and capital. Charnock et al. (2019) suggest that a praxis of ‘the right to the city’ – a radical politics – needs to be embedded within smart city technologies to fight new forms of political-economic regression and oppression. While the Barcelona model of grassroots city-building holds significant promise, they argue that scholars must retain a critical eye towards the city’s smart projects, and in particular their claims to monist epistemologies to enable a right to the smart city. Similarly, Odendaal (forthcoming) shows how social movements can reorient and co-opt smart technologies for their own political and social progress. The opportunity presented in this context is one that can provide broader lessons about the potential for smart city technologies to be used for, and embedded with, social justice goals.

Towards a global comparative analysis framework for smart cities

The variety and interplay of worlding and provincialising practices in smart city initiatives around the world highlight that the term ‘smart city’ means little outside the contexts in which it is deployed. Observing smart cities with an attention to the tensions between worlding and provincialising recalls longstanding debates in urban geography about theory generation. Over several decades, the means by which researchers produce theoretical principles – termed ‘generalisability’, ‘structures’, ‘forces’ or others, depending on one’s philosophical framework – has been the subject of many debates, and, more recently, Castree (2005) has reinvigorated such epistemological concerns. Among other contentions, Castree asks how individual cases are construed to mean something beyond their geographic context (i.e. their territory, scale, empirical focus, etc.).

Drawing on the established urban studies tradition of comparative analysis (Peck,

2015; Robinson, 2016; Ward, 2010), we contend that this collection of articles raises the pressing research need of developing a coherent comparative approach towards understanding smart cities. While our contributors’ smart city case studies effectively highlight the very different ways in which smart city initiatives may be conceived and implemented, a comparative approach would seek to understand the systemic and political processes at play, beyond the boundaries of case study sites, in both the worlding and provincialising dynamics of smart city initiatives.

Such a comparative approach should be global in nature, taking into account the power geometries (Massey, 1993) of particular cities within provincialising/worlding processes, and would presume that the discursive and material manifestations and processes of smartness emerge *in relation to other places*. By extension, a global comparative framework promises to open new spaces for thinking about what smartness means, how it operates and its attendant implications. We flesh out these ideas in the concluding article to this special issue, which summarises and synthesises across the articles and argues that, collectively, they demonstrate the need for a global comparative research agenda that examines the range and geographies of relationships and processes identified across this special issue. Understanding these relational dynamics is critical to the prospects for more just urban futures, futures that are increasingly shaped through smart city initiatives.

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ORCID iDs

Ryan Burns  <https://orcid.org/0000-0001-5025-4947>

Victoria Fast  <https://orcid.org/0000-0002-7093-3864>

Anthony Levenda  <https://orcid.org/0000-0002-3325-8804>

Byron Miller  <https://orcid.org/0000-0001-7310-2962>

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