



Decoding urban development dynamics through actor-network methodological approach



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ABSTRACT

Due to growing social and physical transformations, contemporary cities reveal the profound necessity of proper scientific approaches that are adjusted to conditions of global complexity and dynamic patterns of development. Predominance of an overall market economy, sporadic deregulations of administrative powers and a lack of local investment or resources, dominate urban reality. Incongruous urban decision-making procedures result in contextually inappropriate and incoherent urban management. We will explore these operational elements in Savamala neighbourhood in Belgrade. The actor-network theory (ANT) is applied to analyse the hyper dynamic circumstances of transition in Serbia. An unclear regulatory framework, powerful financial means for investment and limited institutional influence of citizen participation, deploy unstable urban development modalities at the neighbourhood level. ANT offers an insight into how urban norms, projections and structures unfold and how associations and translations of urban elements develop. Plausible yet complex collisions in Savamala constitute a challenge for ANT in mapping urban development processes and visualizing actors and networks through diagrams. Based on the presented results, the illustrative perspective of ANT minimalizes both the importance and the influence of the permanence of urban structures across time and space. Instead, ANT deals with a city as a contingent, fragmentary and heterogeneous, yet persistent product of actors, their roles, associations, agencies and networks. Possible adaptations of ANT should respond to the needs of non-scientific actors and practitioners for an interpretive tool that addresses undercover processes and mechanisms or provides explanations, recommendations or operational diagnoses on how to absorb urban development dynamics.

1. Introduction

Due to growing social and physical changes that intensify as globalized models of profit maximization, consumption and information networks (Harvey, 2012) continue to spread, cities are gradually reorganizing at the spatial and social levels. Although accelerating urbanisation is a global process, its forms and meanings vary depending on local conditions (Bolay, 2006). This ongoing urban development has made cities the primary link between local realities and global social, political and economic forces (Yates and Cheng, 2002; Tsenkova, 2006). Accordingly, a heterogeneous, iterative urban development approach can surpass the perception of cities as merely economic, social and cultural venues and treat them as complex, dynamic urban systems. For this, research and analysis techniques and methodologies that take into account the complexity and dynamics of cities are necessary to improve living conditions in them and facilitate social interactions in the urban development process.

Urban research must be spatially and temporally adapted not only to global markets, consumption patterns and information transfer, but also to local socio-political constructs and cultural identities (Marcuse and Van Kempen, 2008). In other words, we must examine not only how countries/cities interface with the global economy, but also the local social, cultural and historical legacies that each of them carries in the era of globalization (Robinson, 2006). Such research approaches should take into account how cities' functions are shaped by human action and non-human materials, which in turn are influenced by the spatiality and history of the city itself. Research on any urban system should therefore be based on data from both local interactions and global structures, and include human and non-human entities. Technically speaking, the problem of how to simultaneously handle the dynamics and structure of cities as complex systems persists.

Following contemporary relativist trends as regards rethinking space, time, globalization and cities, the challenge for future research is “visualizing cities as unformed, unorganized, non-stratified, always in

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the process of formation and deformation, eluding fixed categories, transient nomad space-time that does not dissect the city into either segments and ‘things’ or structures and processes” (Smith, 2003:574). One approach that might potentially afford such openness and flexibility is actor-network theory (ANT). To examine this potential, this paper aims to apply the ANT methodological approach for analysing the urban development process in a post-socialist neighbourhood in Belgrade, Serbia. Based on Latour’s argument in favour of a new research agenda on globalization and world cities, we will apply ANT not as a theory but as a method. This method emphasizes using human and non-human actors to examine how cities as specific socio-spatial phenomena are manifested through urban dynamics (Gad and Jensen, 2010) and thus produce a new complex reality of urban development. To begin, we will review the theoretical background of ANT and its application for urban research and analysis. We will then attempt to reinterpret the features of the post-socialist neighbourhood of Savamala according to the ANT framework and terminology. Finally, we will present the results and discuss risks of and opportunities for extending ANT beyond a merely descriptive framework towards operationalization in a specific urban setting.

2. Urban development research and ANT’s contribution – literature review

2.1. A new conceptualization of urban development

In the early 21st century, the world has gradually reorganized economically, politically and socially through: profit maximization, the globalization of urban processes, the devastating history of deindustrialization (Harvey, 2012) and the dematerialization of the world. Urban development research techniques and methodologies should undoubtedly address these major shifts in urban life and contemporary cities (Healey, 1997).

Cities are no longer perceived as geographical entities with distinct identities. Rather, the urban today has become a concentration of multiple socio-spatial circuits, diverse cultural hybrids, sources of economic dynamism and a complex range of interrelated processes that form a coherent, albeit multifaceted time-space system (Graham, 1998). The city is perceived as a complex set where past, present and future converge; a dynamic entity that embodies the social narrative and the attempts to govern its social interactions and spatial distribution, i.e. urban development. In political terms, urban development is anything that happens to a city in terms of maintenance, transformation or any other change of its original state (Friedmann, 1987). In a context where physical spaces constantly intermingle with social constructions of these spaces (Firmino et al., 2008), the idea that a place is a single material object is annihilated and a place rather becomes a “space of flows” (Castells, 1998). The “city” concept thus shifts from a spatially bound, people-centred phenomenon to dynamic complex urban systems that, in their incompleteness and indeterminacy, are stages wherein urban elements participate in their production, adaptation and transformation. In other words, the city is perceived as a nexus that balances relational proximity in a fast-moving world with ‘time-space extensibility’, human actors and material objects being part of networks that extend beyond the immediate physical environment (Graham and Marvin, 2001).

Thus, we must shift the deterministic concept of urban processes to a more comprehensive vision that considers complex networks and their dynamic interfaces, in order to gain a better understanding of and strategies for urban development (Huang, 2012). Apart from representing a confusing mix of global and local influences, the complexity of such stand-alone artefacts is encumbered with layers of infrastructure that gradually interweave and infiltrate urban systems, life and culture in cities (Graham and Marvin, 2001; Portugali, 2011). The powers of such networking support a complex restructuring of urban elements combined with economic, political, cultural, technical and/or natural

factors (Murdoch, 1998). Such urban heterogeneity involves the operationalization, interrelatedness and interaction of socio-technical assemblies within a city (Graham and Marvin, 2001). The latter are extended over the times and spaces of urban life (Mitchell, 1996), and offer us an opportunity to construct dynamic, sophisticated, synthesised approaches to contemporary urban development. Consequently, cities nowadays are in a constant state of flux, with the rapid adjustment of their physical, economic, social and political structures (Sykora, 1999) to information flows and infrastructural scapes. As a result, the urban present is no longer attributed only to spatial forms, economic units and cultural formations but also to integral, complex socio-material and sociotechnical systems in cities (Farias and Bender, 2011).

2.2. ANT in the analysis of urban development

In recent urban studies, the complexity and dynamics of the networked urban system has been extensively reinterpreted through the prism of Latour’s Actor-network theory (ANT), with all human, social and technical elements symmetrically treated within a system. All of these entities together contribute to dynamic, perpetual networking, where an understanding of phenomena (including social ones) lies in the associations between them¹ (Latour, 2005). In other words, it reflects the reproduction of the inherent complexity and incompleteness of urban development in three gradual stages: (A) labelling all active elements of an urban system, (B) identifying their roles, and (C) focusing on the associations among them (Table 1). ANT contributes by: (1) establishing a socio-material topology of urban networks, (2) navigating the interpretative dualism of urban theory (nature/society, local/global, action/structure), (3-3) elaborating the supremacy of the associations that configure the relational understanding of the city, (3-4) overcoming spatial hegemony in complex urban reality and above all (3-5) radicalizing the symmetry principle for human actions and non-human materials that makes it possible to determine the consistency and extensibility of urban phenomena beyond their spatio-temporal manifestation (Latour, 1993; Murdoch, 1998; Farias and Bender, 2011) (Table 1).

While human beings remain the key urban element, this blending establishes a new interpretation of cities as composite entities where all objects (physical spaces and structures, tools, technologies, data, formulae and regulations, institutions and, of course, humans) are mutually produced through enactment, interaction and translation (Farias and Bender, 2011). In Latour’s (2005:71) words, “any thing that does modify a state of affairs by making a difference is an actor”; an actor is granted activity by others and can be the subject or object of an activity² (Latour, 1996). As such, the diverse range of associations and a symmetrical treatment of humans and non-humans help put action outside actors, whereby “[a]n ‘actor’... is not the source of an action but the moving target of a vast array of entities swarming toward it,” (Latour, 2005:46). The configuration of a relationship is what counts - not its nature, function or purpose. Networks are established when arrangements between actors produce stable patterns of performance and practices (Smith, 2003).

ANT methodology revisits key urban theory concepts in actor-network terminology (social order, scale, power, decision making, governance and urban development,³ to name only a few). The broad range of applications for ANT in urban research and practice addresses

¹ In Latour’s view, what is important is association; in the interaction between two elements, both elements contribute, they are symmetrical. As Murdoch (1998:367) puts it “ANT came to this principle via two main observations: firstly, humans are not always actors, frequently they are intermediaries and, secondly, not all nonhumans are intermediaries, for they can often act in ways which change (human) worlds.”

² The actual role does not matter in active-passive mode.

³ From an ANT viewpoint, these concepts are consolidated and preserved by material objects that link actors across different spatialities and temporalities (Murdoch, 1998). Various authors validate the ANT approach in urban studies (Table 1).

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