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SYMPOSIUM

Political Infrastructures: Governing and Experiencing the Fabric of the City

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Abstract

There has been a profusion of work in recent years exploring the links between infrastructure and the city. This has entailed a conceptualization of cities and infrastructure that recognizes their mutual constitution and the inherently political nature of networked urban infrastructure. In introducing this symposium, we find that a comparative approach to infrastructure can reveal a diversity of ways in which the urban fabric is produced, managed and distributed, and comes to matter in everyday life. We argue for a more globally informed conceptualization of the politics of infrastructure by exploring three key themes in the symposium: fragmentation, inequality and crisis.

Political infrastructures: preamble

> 'I am not the Minister of Water Resources, but the minister of water conflicts' (Indian Minister of Water Resources).[1]
>
> 'We don't need election campaigns, they are too expensive. All they have to do is turn off and turn on the electricity' (cited in Humphrey, 2003: 101).

The last decade or so has seen a veritable profusion of social science studies of urban infrastructure networks. These debates, some of which have taken place in this journal (see Graham, 2000a; Gandy, 2005; Siemiatycki, 2006; Boland, 2007; Monstadt, 2007), have focused on the technological fabric of the city from a variety of disciplinary or theoretical perspectives. They have analysed the relations between the provision of and access to these networks and the overall functioning of urban areas in a diversity of contexts in countries of the North and South (see Graham and Marvin, 2001). This has revealed the centrality of infrastructure in the construction of the city as 'modern', as a site of capitalist production and expansion, as constitutive of social relations of inequality, and as a space of environmental transformation. This includes, for instance,

This symposium is broadly based on two workshops that took place in June 2005 in Autun, France and in June 2006 at the Open University, UK, both of which were concerned with exploring the politics of urban infrastructures through an international and interdisciplinary scope. We would like to thank participants at both workshops for their contributions to stimulating discussion on this topic. We are very grateful to Olivier Coutard (organizer of the Autun workshop) for important input into shaping this symposium. Two anonymous reviewers provided helpful comments on this introduction.

1 Quoted in Janakaranjan *et al.* (2006: 91).

work on: histories of networked cities and the diffusion of urban technologies (Hughes, 1983; Tarr and Dupuy, 1988; Melosi, 2000); the emergence of specialized, privatized and customized infrastructures (Graham, 2000b; Graham and Marvin, 2001; Kaika, 2004); the relationship between urban ecologies and social differentiation (Swyngedouw, 2004; Gandy, 2005; Heynen *et al.*, 2006); and the role of infrastructures as mediators of globalization, climate change and the 'war on terror' (Bakker, 2003; Bulkeley, 2005; Graham, 2005a; Hodson and Marvin, 2007).[2]

This work entails a conceptualization of cities and infrastructure that recognizes their mutual constitution or co-evolution within a constant state of flux, the importance of specific configurations of agency in shaping their relations, and the inherently political nature and implications of networked urban infrastructure (see Coutard *et al.*, 2005). Drawing on research in a range of urban contexts across a global North–South divide, this symposium builds on this work by considering how fragmentation, inequality and crisis in the urban fabric are produced and contested. At stake in this urban comparative approach is a more global conceptualization of how infrastructures come to matter politically, both discursively and as a set of materials. By focusing on sharp spatial differentiation and socio-technical rupture in basic infrastructures, it demonstrates how critical infrastructures can be in governing and contesting urban change. The empirical context for the symposium is the historical and contemporary geographies of water and sanitation infrastructures, key urban life-support systems that have long played important roles in urban politics.

Yet traditional accounts of urban politics have too often relegated infrastructures to an apolitical context or backdrop, as not worthy of attention, too hidden from view (physically and/or discursively), and/or as simply the purview of engineers or technocrats (Coutard, 1999). Taken together, the above corpus of literature has begun to problematize these accounts, opening up the 'black box' of urban infrastructure to explore the ways in which infrastructures, cities and nation states are produced and transformed *together*. How this politicization of infrastructure takes shape and with what socio-spatial repercussions in a diversity of urban milieux is the central theme of this symposium. It connects nature (as water and sanitation flows) to capitalist urbanization and the 'public' interest (*cf.* Smith, 1984), revealing specific ways in which the development of infrastructure is tied to the discursive, material and spatial dimensions of the public realm.

As well as focusing on specific dimensions of this wide-ranging infrastructure politics, we are concerned with exploring what can be gained from juxtaposing accounts of urban infrastructure in the North and in the South. Developing such a comparative perspective across the North–South divide is perhaps the major outstanding task for the urban infrastructure research community given the important unresolved tensions this work has highlighted — notably the persistent inequalities embedded in network provision — which suggest an urgent need to look beyond the familiar for fresh ideas and lessons, and for the articulation of theory. Echoing recent calls in urban studies for the need to think, learn and draw insight across and between North and South, this symposium modestly offers a further contribution to promoting what Robinson has referred to as 'a more cosmopolitan approach to urban studies' (Robinson, 2002: 532). A comparative approach to infrastructure reveals a diversity in terms of how the urban fabric is produced, managed and distributed, and comes to matter in everyday life. In this spirit, we view this symposium as part of a larger project to develop comparative studies

2 We can also mention here debates around the sustainability and governance of new network services, such as broadband telecommunications, the increasing customization of network and wireless technologies through intranet systems and mobile technologies, blogs and wikis, and trends towards the automation and sifting of urban space through the proliferation of software and technological code embedded into everyday urban processes and practices (Thrift and French, 2002; Mitchell, 2003; Dodge and Kitchin, 2005; Graham, 2005b; Mackenzie, 2006; Sheller and Urry, 2006).

of urban infrastructure in order to develop a more globally informed conceptualization of the politics of the urban fabric (Legg and McFarlane, 2008).

Urban infrastructure: embedding policies, reinforcing power relations

One starting point for tracing the political dimension of infrastructural change is in the shifts in policies and forms of governance that have been evidenced in recent years. Reforms of utility services have now been introduced in most countries and sectors in one form or another, usually with great impacts both on how networks are managed, financed and regulated, and on how populations access services (Lorrain and Stoker, 1997; Curien, 2000). There has been a great deal of work reflecting on global trends of privatization and liberalization by exploring how the contested politics of infrastructure production and management are played out in particular urban contexts (Graham and Marvin, 2001; Bakker, 2004; Lobina and Hall, 2003; Lorrain, 2005; Laurie, 2007). Many writers on urban infrastructure in the South have, for example, critiqued neoliberal-inflected World Bank reform policies (see also Kooy and Bakker, 2008, in this issue; McFarlane, 2008a), arguing that global trends are differentially experienced, and take place in different contexts of fragmentation of networked infrastructures in different parts of the world.

Related to this, there have been widespread and ongoing transformations in urban governance which have in differing ways reconfigured powers and levels of authority between local, metropolitan and national scales, often with a direct impact upon the planning and management of cities and their infrastructure (Le Galès and Lorrain, 2003; Brenner, 2004). The emergence of city-regions in North America and Western Europe, for example, creates new scales of government through which towns, cities and villages become infrastructurally connected (and disconnected) (Gottdiener and Hutchinson, 2006). More generally, contiguous forms of territorial governance reinforced by universalization of infrastructure provision have been displaced by the rise of a logic of network connectivity which frequently bypasses traditional administrative boundaries and restrains the capacity of local and regional authorities to deliver network services for their territories (Offner and Pumain, 1996; Offner, 2000). In Southern contexts, there are numerous examples, particularly in smaller urban centres of sub-Saharan Africa, of water and sanitation requirements leading to diverse forms of local governance arrangements involving small-scale local private operators (for example, in affermage systems) and/or community associations based on user participation (Solo, 1999; UN-HABITAT, 2006). Infrastructures can be at the core of transformations in wider territorial governance.[3]

Focusing on urban infrastructure policies (and their discursive and/or material dimensions) is a useful way of approaching the co-evolution of cities and technical networks in a global context. This is rarely enough, however, to analyse the full range of ways in which the constitution of infrastructures inherently materializes and often reinforces existing sets of power relations within urban societies. As John Allen (1997; 2004) has shown, there is a need to focus on how power's different modalities are

3 Especially in the North, this increasingly complex policy and governance context is focusing more and more on sustainable pathways of urban development. Urban and regional actors have been busy reflecting (if not acting) on the relationship between infrastructure and climate change, focusing on transport, renewable energies, and reduced or more efficient use of waste (see, for example, Bulkeley and Betsill, 2003; Bulkeley *et al.*, 2007), as well as on the changing conceptualization of links between service providers and consumers/users through, for example, the rise of environmentally conscious demand-side management (see Guy *et al.*, 2001; van Vliet *et al.*, 2005; Moss, this issue).

variously *exercised*, how it puts people in place. The articles in this symposium share this desire to uncover and analyse the contingent ways in which the stakes of urban infrastructure motivate particular elite groups to mobilize power over others in order to reach their goals. The exercise of power is present in the construction of water scarcity to strengthen political elites in Sicily (Giglioli and Swyngedouw, 2008, in this issue), in strategic responses to urban shrinking and infrastructure overcapacity in Eastern Germany (Moss, 2008, in this issue), and in the governing of colonial and post-colonial infrastructure to socio-spatially differentiate and 'discipline' urban residents of Jakarta and Mumbai (Kooy and Bakker, this issue; McFarlane, 2008b, in this issue).

We argue that the development of urban infrastructure is always a highly political process. At a given time in any city, one finds a physical fabric above and below ground being produced, altered, repaired, maintained and demolished by a host of builders, developers, architects, engineers, bulldozers and diggers (Latour and Hermant, 1998; Graham and Thrift, 2007), while in parallel to this the particular shaping, location, financing, use and repercussions of this physical work are continually debated, negotiated and contested through the more discursive and tactical realms of government statements, media reports, formal and informal protests, lawsuits, etc. The articles that follow in this symposium all reveal how processes of fragmentation, inequality and crisis in the urban fabric are produced and contested, and highlight how different infrastructures in different places can become sites of negotiation, tension and struggle between a variety of interest groups (Star, 1999; Barry, 2001). In the next two sections, we contextualize and introduce the articles in relation to wide-ranging debates on colonial and postcolonial infrastructures and on network service provision in contexts of urban fragmentation and fragility. We suggest that what is often at stake here is not simply the provision of infrastructure, but the conceptualization of the city, and the nature of social justice.

Inequality, subjectivity, moral politics

Recent work has begun to focus explicitly on the construction of difference and inequality between social groups through the discursive and/or material shaping of urban infrastructure, for example in producing distinctive notions and ideals of modernity, morality, public space, and citizenship (Kooy and Bakker, this issue; McFarlane, this issue). In doing this, it offers an empirical challenge to the existence of a 'modern infrastructural ideal' by demonstrating how forms of universal, equitable provision of services were rarely achieved in Southern cities (Kooy and Bakker, this issue; McFarlane, this issue; see also Jaglin, 2005), and by highlighting a significant shift in the dominant logic underpinning service provision, from universal supply to adaptation to demand, with the increasing spatial inequalities in services that this always implies (Moss, this issue).

Kooy and Bakker explore the spatial, discursive and material dimensions to colonial and contemporary 'technologies of government' leading to differentiated water supply and sanitation provision in Jakarta. Focusing on the materiality of governmentality to call attention to the mutual constitution of infrastructure, urban space and subjectivity, they elaborate on how the relations between 'governing' and being governed and the constitution of modern citizenship went hand-in-hand with the development of water networks during the colonial period. They show how the classification of urban citizens in Jakarta in terms of access to water and level of 'hygiene' has persisted through to the post-colonial era, and thus how governing infrastructure is a powerful means of controlling and 'disciplining' corporeal subjects. They also show, however, how the poor adapt to or respond to and resist dominant methods of governing infrastructures, which suggests that there is a crucial role for the poor in mainstream development debates globally, nationally and locally.

McFarlane traces the political continuities and discontinuities through time in urban sanitation provision in Bombay/Mumbai. He argues that a historical perspective is useful not just for understanding the discursive and material sanitary geography of the contemporary city, but for historicizing seemingly 'new' practices and using historical conditions to theorize the contemporary moment. His article considers how local infrastructure redevelopment relates to wider colonial and post-colonial discourses of contamination and public health, and situates sanitation infrastructure in a wide terrain of redevelopment, public space and health, environment, and engineering. He finds productive sites of intersection between colonial discourses and contemporary debates and practices in Mumbai, including bourgeois environmentalism, discourses of the 'world city', and logics of community-managed sanitation infrastructures.

At stake in these conceptualizations of infrastructure is a moral urban politics based on the enrolment of subjects into 'civilized' behaviour.[4] This is particularly pronounced with regard to water and waste. Infrastructures have historically patterned urban experience through their implication in changing urban socio-materialities (Pickering, 1995; Otter, 2004). For example, writing about mid-nineteenth century London, Otter contends that the aim of producing a civilized, clean, respectable, productive and healthy city necessarily drove the urban fabric and the city's moral condition into relation with one another. London's physical and moral characteristics 'were perceived as being institutionally amenable to technical adjustment, a basic premise uniting projects as diverse as those of Edwin Chadwick and Ebenezer Howard' (Otter, 2004: 41). Infrastructures, in allowing circulation of air, water, waste, light, goods, traffic and people, were critical here, helping produce a self-governing hygienic, moral subject (Joyce, 2003). Infrastructure technology was closely associated with different forms of subjectivity. As Otter shows, sanitation involved a double subjectivity in relation to (some) Londoners: a simultaneous withdrawal of intimate acts to the private space of the bathroom, freeing individuals from dirt and disease, and a freeing of people to breathe, work and behave decently. These are cumbersome, slow, contested processes, involving the 'cajoling' of 'matter, minds, and bodies to enter into delicate new configurations' (Otter, 2004: 43). The relationship between infrastructure, urban experience and subjectivity varies across space and time, and in the context of nineteenth-century colonies is often most starkly pronounced in reference to waste, especially when characterized as a form of urban contamination, from abattoirs to tanneries to the disposal of human waste.

In the colonies, contamination was often underwritten by a close association with disgust at the colonial Other, the uncivilized, racialized polluting bodies that were often viewed as less amenable to self-government than their domestic working-class counterparts. This manifested itself in different ways. Anderson (1992; 1995; 2006), in his study of early-twentieth-century American public health discourses in the Philippines, writes of 'excremental colonialism', signposting the importance of the 'poetics of pollution' in US colonial urban thinking. This poetics creates a figure outside of time, potentially amenable to modernizing strategies, and contrasts a closed, ascetic American body with an open, grotesque Filipino body, by mobilizing a range of texts, clinics, laboratories, infrastructures and urban spaces (the marketplace, the public square). Anderson (1995: 641) contends that this reductive move was successful in that it allowed for a 'massive, ceaseless disinfection' of the city, demanding control, quarantine and reformation. Much of this excremental colonialism depended on the colonial objection to 'promiscuous defecation', as administrators viewed it, with 'matter out of place' (Douglas, 1966), to mark racial and social boundaries intimately reduced to orifices (open or closed) and dejecta (visible or invisible). Infrastructure played a role in this context through, for example, American design and construction of community

4 This moral enrolment finds parallels today, of course, in the dominant 'sustainability' discourses adopted by politicians and the media, which try to convince the public that their behaviour and lifestyles, including in relation to infrastructure, must adapt to the 'new' ecological paradigm.

toilets, but officials complained that Filipinos continued defecating in public regardless. The imaginative geography of urban contamination that Anderson describes stands in contrast to sanitation efforts in other colonial cities, such as in colonial Bombay, where efforts hinged less on personal hygiene and more on environmental sanitation (Dossal, 1991; McFarlane, this issue). The articles by Kooy and Bakker, and by McFarlane, illustrate how the deployment of notions of 'hygiene' or 'public health' in colonial and postcolonial contexts entail particular technologies of rule that are folded into forms of water and sanitation provision and contestation.

Crisis, rupture, consciousness

On a second register, the politics underpinning urban infrastructural transformation are rarely more evident or visible than in times of crisis or rupture. When water, energy or transport networks suffer extreme pressures or collapse completely, the underlying urban power geometries become somewhat more perceptible (Giglioli and Swyngedouw, this issue). There are two aspects to this centrality that articles in this issue highlight. First, in the case of largely unforeseen crises, it is often in the responses of local governments and infrastructure managers that we can analyse the reinforcement or transformation of power relations. Moss (this issue) focuses on how local authorities and infrastructure managers are reacting to major overcapacity in water and wastewater networks in Eastern Germany following unanticipated changes in consumption patterns through socio-economic transformation.

Second, crises are socially constructed, being the implicit or explicit outcome of local policies or actions of dominant social groups, who have the capacities to reinforce their positions and interests through their discursive mobilization of crises and material adaptation to extreme conditions. Here, Giglioli and Swyngedouw (this issue) focus on the socio-political relations underpinning water supply in Sicily and the discursive and material construction of scarcity during the Sicilian water crisis of summer 2002. Using a critical political ecology approach, they explore how hegemonic groups — constituted between organized crime and powerful politicians around the local–national nexus — maintain control over water infrastructure, and how these techno-natural networks become the basis for debates around rearticulations of a (corrupt and clientelistic) hegemonic power base. Infrastructure crisis here becomes an explicit political instrument, legitimating political-economic 'speculation on thirst'.

Although the origins of the crises described in these two articles are different, both document and analyse situations of 'normality'. The overcapacity and underutilization of water and wastewater infrastructures in Eastern Germany resulting from 'shrinking' processes of parallel population and economic decline appears to Moss (this issue) to be more of a 'new normality' than a temporary problem which will resolve itself in time. Likewise, Giglioli and Swyngedouw (this issue) analyse an evolving political situation that is shaped within the normal, habitual context of drought and (perceived) water scarcity in Sicily, albeit one that 'exploded' dramatically into view during an exceptional summer. Just as large infrastructure networks cannot easily be adapted (downsized or removed) to major socio-economic transformation, the rigidity of institutions (Moss, this issue) and/or the resilience of social power relations (Giglioli and Swyngedouw, this issue) also sustains practical inflexibility with regard to addressing infrastructure problems, even if in the Sicilian case this can also be viewed as reflecting the adaptability of hegemonic interests to meet their goal of reinforcing the political status quo. Whether it is in the huge financial costs of maintaining infrastructure (even in contexts of decreasing numbers of consumers) which may burden state and municipal budgets for decades to come (Moss, this issue), or in the social and political costs associated with the

control of infrastructure by a narrow set of dominant actors (Giglioli and Swyngedouw, this issue), it is clear that under such configurations infrastructure can be as much of a liability as an asset.

This is powerfully illustrated by Humphrey (2003) who, writing about infrastructure in the eastern Siberian city of Ulan-Ude, shows how public perceptions of infrastructure shifted from a notion that it was a 'taken-for-granted' foundation to urban life to a sense of infrastructure as threat, as malign in the hands of particular corporate and state interests. In the Soviet context, the notion of infrastructure as foundation is distinct from the more Western perception of infrastructure as a stage upon which life takes place (Star, 1999). It is bound up with a Marxist understanding of *infrastruktura* — particularly prominent in the early years of Soviet rule — as, like ideology, a determining force both of the level of development and modernity, and the level of societal consciousness. As Humphrey (2003: 94) argues, 'a lot was at stake with the infrastructure so conceived', and indeed breakdown takes on a particular social resonance that differs from other urban contexts. For example, in addition to the close wrapping of infrastructure with Leninist ideas of urban development and consciousness, the highly spread-out nature of Siberian cities, combined with harsh winters, means that the breakdown of infrastructures like energy matter a great deal.

The political dimension to infrastructure crises problematizes notions of cities as bounded and coherent, as external political negotiations play a central role in stabilizing and destabilizing local network systems (see also Moss, this issue; Giglioli and Swyngedouw, this issue). Even if infrastructure provision in Siberian cities continues to follow the traditional Soviet state-led model with no legal obligation to pay either for access or consumption, for Humphrey, in Russian cities infrastructure for most people is increasingly a 'source of anxiety and destabilization': 'Rather than being an index of modernity, it has become a sign of decay' (Humphrey, 2003: 104; *cf.* Moss, this issue). Humphrey *(ibid*.: 99) remarks that in the post-Soviet context the Western imagination of infrastructure as 'background', as 'separated in public discussions from social policy', does not apply (see Buzar, 2007, for a post-socialist example of this with regard to energy poverty in Macedonia and the Czech Republic).

The ways in which infrastructures matter vary a great deal, from issues of privatization, maintenance and breakdown to conflict over access and distribution. Frequently, these issues conjoin or collide such that urban infrastructure in many contexts cannot be fully understood without evoking reforms, crises and accessibilities in parallel. This is the case, for example, with regard to drinking water provision in the Indian city of Chennai, which suffers from persistent and acute water scarcity, attributable only in part to hydro-geological factors (Janakaranjan *et al.*, 2006; see also Giglioli and Swyngedouw, this issue). Here, a series of reforms, investments and projects aimed at drastically increasing the amount of water available to the urban population has done relatively little to resolve the profound disparities in drinking water access among the population. The unconnected lowest-income households rely either on increasingly polluted wells or the more expensive and poorer-quality water distributed by private sellers, and they certainly cannot afford to pay more for a litre of mineral water (Rs 12) than for a litre of milk (Rs 10) (Brisset, 2006: 265). The increased quantities of water available in the city have been accompanied by an aggravation of epidemics and health crises including outbreaks of cholera, leptospirosis and dengue.

The evolving and intertwined negotiations over water governance, crises (in terms of quantity and quality of water available) and accessibility help to reinforce a context of urban vulnerability and fragmentation. Similarly, the articles by Giglioli and Swyngedouw, and Moss, illustrate something of the potential or actual fragility of urban infrastructure as municipalities and other interests seek to find a balance between infrastructure deployment, network capacities, demand and resource flow pressures. They also focus on how the political shaping of water provision in a time of crisis often aggravates problems and inequalities for the majority while offering improvements only to a small minority (see also Kooy and Bakker, this issue; McFarlane, this issue).

Infrastructure crises are the precursors *and* outcomes of changing societal consciousness, both in terms of destabilizing the taken-for-granted nature of infrastructure and in terms of unsettling the social order and urban experience which reflect how people relate to and use (or not) infrastructure on a day-by-day basis (see also Latour and Hermant, 1998; Picon, 1998; Pile, 2000).

'Re-materializing' urban infrastructure

These accounts of enactments of the politics of the urban fabric (in contexts of inequality or crisis) can be seen to demonstrate some of the diverse and contingent ways in which urban infrastructure may be 're-materialized' through a comparative approach (*cf*. Lees, 2002; Latham and McCormack, 2004). This work underscores the ways in which infrastructure development is socially constructed by various interest groups through an array of tensions, tactics and complexities, which are far more problematic for (just and equitable) infrastructure provision than any technical issues. The materialities of urban infrastructure (re-)emerge then in the political negotiations thereby necessitated, more than in the physical process of deploying networks and services in the urban fabric. From this perspective, engineering water and sanitation 'solutions' in any urban context immediately and inherently mobilize conflictual political ideals, ideologies and relations (Gandy, 2008). Infrastructures and technologies are not neutral, but 'politics pursued by other means' (Latour, 1988: 38; see also Winner, 1980).

A focus on the constitution of power relations and the exercise of politics (moral or practical) in the development of urban infrastructure is a crucial way to forge contextualized understandings of how material infrastructure simultaneously connects and disconnects across scales, as its networks 'are by nature neither local nor global, but are more or less long and more or less connected' (Latour, 1993: 122). This does not mean, however, as Offner (2000) reminds us, that urban politics is brutally 'dispossessed' of its regulatory power over multiscalar infrastructures (or that local politicians can plead helplessness to justify laisser-faire attitudes), but rather that public authorities need to develop (as for many domains) a broader understanding of both their capacities for intervention (including with whom this might take shape) and of the wide-ranging implications of their actions. This is likely to involve, then, as much a 'politics of connectivity' (Amin, 2004: 40) as traditional territorial politics in its requiring an inclusive, mobile and global understanding of power relations (see also Urry, 2000).

There are two points to be made here on the materialities of infrastructure in relation to Euro-American literature in urban studies, which in the claims it makes sometimes slips from a small handful of Euro-American examples to claims about infrastructure in general. First, it is often remarked that infrastructures, as a historically important part of the 'modernist ideal' of the uniform, integrated and equitable city, have become increasingly fragmented through parallel processes of deindustrialization, privatization and reduced state spending (*cf*. Graham and Marvin, 2001; Bakker, 2003; Swyngedouw, 2004). While this is undoubtedly the case in a number of urban contexts (see Moss, this issue), a brief look at cities as different as Bombay/Mumbai and Ulan-Ude reveals *an urban fabric that has always been fragmented*. This deeply historical fragmentation of infrastructures in the global South, which supports the emergence of distinct and contingent urban modernities and politics, demands divergent narratives of urban change from those in the global North (Gandy, 2006; Jaglin, 2005; see Kooy and Bakker, this issue; McFarlane, this issue).

Second, if there is a tendency to perceive infrastructures as a historical legacy of nineteenth-century capitalism that subsequently became 'hidden' beneath streets and walls (Gandy, 2004; Kaika and Swyngedouw, 2000), it is clear that from the viewpoint of Bombay or Ulan-Ude infrastructures have rarely, if ever, been concealed or technical

issues (*cf*. Star, 1999; McFarlane, this issue). A brief look at infrastructure in a variety of urban contexts, from nineteenth-century London and the Philippines to contemporary Ulan-Ude and Chennai, reveals a diverse tapestry in how infrastructure is conceived and matters socially across space and time. This is not simply to invoke heterogeneity or to endlessly multiply case studies, but to argue that claims about infrastructure need to be — in Dipesh Chakrabarty's (2000) phrasing — *provincialized*, and that informing accounts with a greater diversity of urbanisms can lead to more situated and subjective understandings of infrastructure. The articles here demonstrate that infrastructures have always mattered, albeit to different groups in differing ways and to varying extents. If they were ever concealed or backgrounded, it was to or by those in hegemonic social positions. By contrast, they have always been foregrounded in the lives of more precarious social groups — i.e. those with reduced access or without access or who have been disconnected, as a result either of socio-spatial differentiation strategies or infrastructure crises or collapse — constantly working and reworking the material constructions of the very existence of these groups. A focus on 'provincialized' political infrastructures thus inherently links notions of governance and citizenship, demonstrating both that policies, powers and subjective experiences of the urban fabric are intertwined and mutually constitutive, and that it is the multitude of ways in which this intertwining takes shape which helps to explain the persistent urban diversity (and inequalities) at play within and across scales and times, within cities from North to South. This effort can point to the ruptures between generalized claims made about infrastructure and the city, and the empirical diversities of urban infrastructure as it is produced, managed, distributed, experienced and used.

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Résumé

Ces dernières années, les études abondent sur les liens entre infrastructures et ville. Il en a découlé une conceptualisation des villes et des infrastructures qui prend en compte leur constitution mutuelle ainsi que la nature intrinsèquement politique des réseaux d'infrastructures urbains. Pour lancer ce symposium, nous estimons qu'une approche comparative des infrastructures est en mesure de révéler diverses façons dont le tissu urbain est produit, administré et réparti, et dont il devient important dans la vie au quotidien. Nous préconisons une conceptualisation des politiques d'infrastructures qui bénéficierait d'un éclairage à un échelon plus mondial tout en explorant trois thèmes clés du symposium : fragmentation, inégalité et crise.