
The Urban Impacts of Reforms in the Networks Sector

Olivier Coutard

(Translated from the French by Tony Kinsella)

Abstract

Over the last twenty years, network sectors have undergone significant reforms in terms of the deregulation of markets, an increasingly commercial approach to service provision and in some cases outright privatisation of service providers. A group of authors, basing themselves largely on studies of developing cities, argue that this pattern of reforms in network services reinforces urban splintering. In this article we both question this thesis and strive to explore beyond it, basing myself on empirical works, particularly those carried out within a LATTS research programme.

Key Words: Network services. History. Liberalisation. Privatisation. Inequalities.

Network services have, for the last twenty years, undergone a series of reforms involving an increasingly *commercial* approach (i.e. in particular the limitation of cross subsidisation), market *liberalisation* (increased role for competitive mechanisms) and, finally, *privatisation* of the public bodies responsible for these services. The scientific and political debates on the impact of these reforms tend to result in a confrontation between two schools. Defenders of these reforms stress the reduction of costs and the better response of these services to the differentiated needs of consumers (Brook & Irwin 2003; Ménard & Shirley 2002), whereas critics denounce the growing inequalities of access to essential services (Ernst 1994) and the devastating social effects of the reforms on the services concerned.

In this article, we seek to move beyond the economic determinism which underpins the views of both the critics and the supporters of such reforms, by means of an approach which is both *historic* and *comparative*. The *historic* approach focuses on the historical process whereby these network services became, or did not become, universally available. The *comparative*

approach involves the study of observable differences between cities and/or network sectors. The question of the *effects* of network service reforms on urban societies must, in other words, be placed in the context of a more general study of the long term *interactions* between urban fragmentation or integration on the one hand, and on the other, processes by which essential urban infrastructures and services are made available to urban populations. This theoretical framework and reformulated methodology allows for consideration of the diversity of local trajectories before and after the reforms, and from that basis for a more rigorous discussion of the social and urban impact of these reforms.

Questioning the 'splintering urbanism' thesis

Many authors, basing themselves on studies focussing on developing cities, support the thesis of *growing urban splintering supported by the dominant methods of application of the reforms of network services*.¹ This thesis is systematized in a work published in 2001 by two British researchers who expand its domain of validity to all economic regions of the world (Graham & Marvin 2001).

According to Graham and Marvin, over the last two or three decades one can observe the increasing challenging of a *modern integrated infrastructural ideal* offering homogenous and universal services—an ideal which prevailed into the 1960s. And infrastructure networks in many urban regions around the world are henceforth subject to processes of *disintegration (unbundling)* due to a combination of powerful factors: a financial and functional crisis of infrastructure networks; changes in economic planning policies and in the management of networks linked to neo-liberal reforms, to the growing internationalisation of the economy and new consumption practices; abandonment of the ideal of socio-spatial integration in urban planning; the development of new urban landscapes (marked by sprawl and poly-centralism); and a growing differentiation in social behaviours and representations. This disintegration of networks, the authors argue, allows for the development of avoidance strategies (*bypass*), that is to say discriminatory and socially regressive strategies which favour the selective connection of powerful or valued users and zones. And these processes can lead to the

creation of *premium networked spaces* which reflect and reinforce the tendency of elite and high-income social groups to live in spaces separated from the general urban tissue. The authors further conclude that the gap which is opening between networked and non-networked spaces and individuals is all the more disturbing given that modern societies are more and more networked societies (Castells), in which effective poverty is no longer so much a question of material poverty, but rather one of poverty in terms of connexions, which limits the capacities of groups and individuals to exercise their influence in space and time (Graham & Marvin 2001).

The *splintering urbanism* thesis invites different theoretical and methodological critiques (Coutard 2002; 2005; Jaglin 2005a; 2005c; *Antipode*, forthcoming).

In the first instance, the absence of any real historical analysis of the phenomena at play gives rise to a certain doubt as to the strength of the conclusions which contrast the current period with a former period characterised by an 'integrated ideal'. Given the absence of any convincing interpretation as to the reasons why, historically, certain essential networks (water / sewage, electricity, telephone ...) were made universally available in certain contexts and not in others, the authors struggle to define the specificity of today's neo-liberal era.

This thesis also rests on the idea that changes in industrial organisation and the regulation of networked services conform to some universal neo-liberal dynamic and that the urban context within which these changes occur has little impact on either their modalities or their effects. This universalist vision is strongly impregnated with economic determinism—hardly relieved by the mention of more or less sporadic, local forms of resistance to this neo-liberal logic—which the results of other works tend to question.²

Finally the thesis of *splintering urbanism* suggests a positive connection between an integrated offer of networked services and urban integration (and in a symmetric manner between unbundled networks and urban splintering) without the authors ever offering themselves the means to validate (or invalidate) this hypothesis.

On the methodological level, the demonstration as a whole suffers from an overly superficial empiric validation, advancing by means of an accumulation of rapidly examined examples rather than through detailed

empirical works. This approach, which gives a too small place to an empirical analysis through contrasting facts, leaves the authors open to the suspicion of having silently passed over developments every bit as significant as the ones they cite, but developments which do not support the arguments they seek to advance. In the rest of this article we will re-examine these questions on the basis of an ensemble of quite in-depth studies of the interactions between networked services and socio-spatial dynamics in several urban regions.³

The bases for the universalisation of networks

A central issue in the debate on public policy concerns the impact of reforms on the network access of households that are expensive to serve, poor, precarious or otherwise insolvent—all categories which make up most of the rearguard in terms of the last to be connected (or the advance guard when it comes to being the first to be disconnected). This debate involves a confrontation between supporters of such reforms and those who oppose them. The former argue that the improvements in productivity and diversification of the range of services offered benefit all customers, including those with the most modest incomes. The latter see the drying up of cross-activity subventions and the unbridled pursuit of profits allowed by this liberalisation as necessarily leading to a regressive form of discrimination in the provision of services, with particularly unfavourable consequences for the least solvent households. Both groups also clash when it comes to appreciating the virtues (or defects) of the organisational model which these reforms are said to have challenged—the model of vertically integrated public sector companies operating in a planned, and monopolistic, market.

When it comes to inequalities in terms of access to essential services, and the reason for such inequalities, the two ‘camps’ thus attribute the intrinsic effects of the industrial organisation of network sectors: planned or competitive markets, public or private sector companies, the degree of horizontal and vertical integration of those companies. Historical and comparative analysis leads us to question this economic determinism. The urban monographs available to us show, or confirm, that the process

of universalisation, or of non-universalisation, of access to essential network services⁴ is not primarily determined by the form of industrial organisation of the relevant sector.

Neither the integrated national public monopoly, nor divided systems, guarantee universal access to network services. The 'EDF Model' in France, historically played a determinant role in the egalitarian offer of cheap, high quality, electricity, although the electrification of the national territory had been achieved before the industry was nationalised: and the universal provision of mains water supply across the nation was not delayed by the extraordinary fragmentation of this sector. The opposite can be found in the Argentinean experience where the public sector national company *Obras Sanitarias de la Nación* (OSN) has not managed in its seventy-five years of existence to generalise mains water supply even in urban areas.

The regime of ownership of the companies supplying the service does not specifically determine the rhythm at, or the degree to, which access to the networks is generalised. Public in Los Angeles, private (at least for the commercialisation of the service) in Paris, 'hybrid' in Rome (the city being split into two service zones, one supplied by a private company, the other by a city-owned utility), the domestic water supply (the 'private' service of the late nineteenth century which became the 'public' service by progressively replacing the public water points) was generalised in these three cities at comparable rhythms. In Cape Town (South Africa), on the other hand, the existence of a municipal water supply service has not managed, in a century and a half, to provide universal access to mains water for the city's residents; on the contrary, successive city governments have, to admittedly differing degrees, followed a clearly discriminatory policy in terms of water supply.

The effects of competition, or of a planned system, are, in the end, equally contingent upon other factors. Historically competition has often stimulated, sometimes on a large scale, the development of telephone and electricity networks, and sometimes even water supply ones (as in the particular context of Rome). It is, however, equally true that the complete universalisation of a service has never taken place under a competitive regime (although mobile telephone networks may be in the process of becoming the first exception to this rule in various countries). The planned

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approach has also known mixed fortunes and forms: a decisive factor in achieving universalisation here, a factor of rationing there, and elsewhere, a factor determining the exclusion of certain groups or zones from acceding to the networks.

The process of the universalisation of network services appears in fact to depend principally on exogenous factors, which our work has brought to light (Courrier de la Planète 2005). Three main factors seem to be determinant in this regard.

- (1) The will, and capacity, of the State or local public authorities to facilitate, and render solvent, the process of universalisation. At the risk of stating the obvious, it is important to first of all recall the central role of the public authority: in certain contexts, this authority does not seek to promote universalisation of essential network services. Once this will is established, the problem of financing becomes the central difficulty. It can be overcome by means of different combinations of subventions, and adjustments, but also with the assistance of non-financial instruments. In this way, in Montreal the decisive factor in the universalisation of water supply networks was, historically, making it obligatory for buildings to be connected to the mains supply and to have a paying subscription to the service. This ensured the success of the municipal company's business plan (Fougères 2004).
- (2) Public control over land occupation and urban development. Although this may not be an absolute rule, one can observe a strong correlation between an illegal status of land tenure (often correlating to housing occupancy) and non-connection to networks.
- (3) A small proportion of households in extreme poverty. The notion of poverty, which is largely a relative one, is also an absolute notion. If one understands by extreme poverty the situation of individuals whose very daily subsistence is at issue, the question of their access to essential services, and the access of households to which they belong, raises specific and significant difficulties. Their connection to the networks is far from obvious. It is primarily through these difficulties of connecting groups in extreme poverty that the economic conditions of an urban / national society impacts on the universalisation process of

network services. Financial precariousness can also reduce the ability of such households to meet the recurrent financial charges involved in being connected to network services.

These findings lead us to disagree with the idea that increasing the average standard of living leads automatically to the universalisation of access to the network (Ménard & Shirley 2002). The findings of empirical studies do, of course, largely agree that a too low average per capita income prevents the financing of general access to the networks. However, even if the average income rises, the universalisation of access is problematic when a significant fraction of households remain in extreme poverty.

We also disagree with an approach which defines itself as 'cultural' or 'post-colonialist' (Kooy & Bakker 2005) and which partly attributes non-access to networks by urban populations of indigenous peoples in a colonial context to a deliberate rejection by such populations of the modern Western standards these networks represent. This thesis, which it must be said has questionable political implications, tends to advance, with little support, a factor that, to us, seems secondary.

Recent reforms and their urban effects

Reforms vary widely from one urban region to another in terms of their methods, their effects and what they place at stake. The one general rule to emerge is that nowhere have the reforms given rise to a complete liberalisation of the affected sectors. We will not here examine the manner in which the context (particularly the local and national) impacts on the reform processes even though it is both evident, and significant, that one does not reform network services (*services publics* or 'utilities') in the same way in France as in Great Britain for example. We will rather emphasise that the impact of these reforms on the conditions of access to services differs significantly depending on whether the networks are fully generalised or not.

In equipped cities, the combined effect of the reforms and the introduction of new communications and information technologies have effectively achieved an increase in the differentiation of service offers.

These differentiations have often led to a better quality / price ratio for most—and sometimes for all—customers. They have also, on numerous occasions, given rise to discrimination: and increased inequalities in terms of access to services. Nevertheless, and irrespective of the degree of fragmentation achieved, the scale of these inequalities remains limited (problems of affordability, debts, and temporary disconnection). It does seem, in effect, socially inconceivable and politically unacceptable that a large number of households be durably (much less permanently) denied access to essential services because they are insolvent.

In cities with incomplete network installations, solvency and effective access to services (in the installed zones) are more directly related, with more varied consequences, independent of the public or private status of the operator. Accordingly, in Cape Town, insolvent households risk being permanently disconnected from their electricity supply,⁵ or even being evicted from their homes. Even if the proportion of households affected is not significant, the fragmentation logic is obvious. The analysis of the effects of the reforms should not, however, be limited to the households which were already connected at the outset. The analysis must cover the entire urban population and take into account the possible effects of the reforms in terms of extending access to the networks (in non-serviced zones, and particularly to ‘informal’ residential areas).⁶ The underlying logic of fragmentation in terms of the commercialisation of the services can be largely compensated by a dynamic extension of the networks (cf. Buenos Aires, Cape Town).

Most of the cities we consider are, however, developed cities with completed networks, or developing cities with incomplete networks. Could it be that these conclusions concerning the effects of reforms are, in fact, determined by the characteristics which differentiate these two types of cities (in particular: wealth per inhabitant; scale of the socio-economic disparities)? The particular case of Santiago, Chile, an emerging city marked by very strong socio-economic disparities, and equipped with basic universal networks, tends to validate the proposed interpretation. In Santiago the modalities of supplying essential services appear to be more integrationist. Certainly a small proportion of households is excluded from the assistance system for failing to follow the budgetary discipline

imposed by social services. Everything points, however, to a reality where, once a network is universally accessible, the public authorities are obliged to guarantee the effective access of the greatest number of people to the essential service thus provided. The universal network thus appears to be the catalyst for the right to access the service provided by that very network.

Networks and urban splintering

Let us now address the links between access to networks and the dynamic of urban integration or splintering. All other things being equal, it is hardly disputable that the degree of urban cohesion and integration is higher when all inhabitants benefit from equal access to essential urban services, rather than the contrary. From this viewpoint, the standards which apply in long industrialised countries (i.e., integrated networks, universal services) would appear to be eminently desirable. If, however, one abandons this photographic approach to analyse the interactions between network services and urban dynamics in the long term, the role of integrated universal networks in the processes of urban integration, or splintering, emerges as being more ambivalent than the thesis of *urban splintering* would suggest. Let us give three examples.

In *Buenos Aires* a social policy inspired by a public hygiene priority was characterised by the principle of un-rationed access to mains water supply (the principle of *canilla libre* or 'free-access-to-tap'), fully conforming to the 'modern integrated infrastructural ideal', made the Argentinean capital, towards the middle of the twentieth century, one of the best equipped cities in the world. The water supply service then ceased to be universal under the pressures of insufficient financing, strong urban growth marked by the installation of significant numbers of poor inhabitants in peripheral zones which were not connected to the network. This case of a visible 'premium networked space', defined by the perimeter of the water mains, which in fact excludes half the population of the urban region, poses serious questions for the analytical value of the interrelated notions of unbundling and bypass proposed by Graham and Marvin (2001). In effect, the inequalities in terms of access are more explained by socio-spatial

segregation than by the actual unbundling of the network. On the other hand, by offering an example of a network conceived and developed along the principle of universalisation, but which was only partially realised, the Buenos Aires example leads us to question the link between universal service and urban integration: from what spatial scale of universal distribution of a network can one, and should one, consider that its integration effects (within the zone it serves) dominate its fragmentation effects (at its outer edges)? (Botton & de Gouvello 2005).

In *Los Angeles* the development policy for the water mains, sewage and electricity networks, favoured, through public and cross-subsidisation, a process of spatial enlargement which, when coupled with the historic propensity of the *Angelena* population to self-segregate amongst themselves, then—according to most authors specialised in Los Angeles—created a fertile environment for a social and functional splintering of the urban region (growing rejection of social blending, and a functional poly-centrism) and the recent revival of political secession. At the same time, however, control of the water resource and competitive electricity supplies were decisive factors in the political integration of the city of Los Angeles in its current borders, through a process of the massive annexation of neighbouring local authorities at the beginning of the twentieth century and through the important role which the debate on public services played in countering the secessionist movements (Boudreau & MacKillop 2005).

Finally, in *Santiago* the connection of all residential units to the essential networks has, in particular since the 1980s, facilitated and legitimated a strong policy of spatial segregation at the local authority level within the conurbation of Santiago as well as a process of urban spread, also segregated. If public aid (the State) for access by poorer households to the networks does indeed constitute a form of integrationist redistribution (with the reservation that part of the poorer households were excluded) it also accompanies and sustains the absence of a (functional) social, fiscal and political solidarity within the Santiago conurbation (Plieger 2005).

These examples, which suggest that integrated networks do not play an unequivocal integrator role, bring us to more broadly question the postulation that associates integrated networks, homogeneous services, and urban integration. The water supply service in Cape Town, for example,

is marked by a strong social regulation producing important solidarities between the city's rich and poor zones / populations (at the price, financing, technical and management levels). However the insufficient differentiation of the service appears as a possible factor of splintering because it incites both the wealthier and the poorer to leave the network, the first because the service does not suit them, the second because they lack the means to pay. In the context of a Cape Town type situation where the networks are incomplete, the most appropriate public intervention would doubtless be, at least during an intermediate phase, to regulate the alternative supply offers to the network (quality of service, price, business profit margins) (Jaglin 2005b; see for a similar argument in the Indian context Llorente & Zerah 1998). In the European context, one hardly ever encounters urban situations featuring incomplete networks. Our work suggests, however, that a strictly uniform supply does not necessarily guarantee equal access (or even equitable access) to essential services. Such a uniform supply offer may be appropriate in a region characterised by relatively limited social inequalities as, for example in the Stockholm region. Conversely, when the social inequalities are more marked, such as in the London region, a certain form of differentiation of the supply offer can be socially desirable and redistributive (Coutard & Rutherford 2007).

Conclusion

The results of the monographs on which this article is based definitively lead to a quite deep questioning of the thesis of *splintering urbanism*. The clash between the modern infrastructural ideal and the contemporary neo-liberal era appears to be largely unfounded. It seems rather to rest on an artificial rapprochement between a historical model largely confined to the older industrialised countries and contemporary processes more observed in developing cities. Thus the notion of *unbundling* which lies at the heart of the *splintering* thesis is partially deceptive when it comes to studying several developing cities where recent evolution does not involve a passage from an integrated system to an unbundled one, but rather a passage from one more or less unbundled system to another. In

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these urban contexts, the mobilisation of the binary theory of *unbundling* does not allow us to analyse if, in what measure and under what conditions the evolutions observed are more conducive or, conversely, harmful to the generalisation of access to the service in question (*Flux* 2004). The dual interpretation proposed, expressed in terms of generalised neo-liberalisation and sporadic manifestations of resistance to this neo-liberalisation, does not report the modalities of governance of network services in the urban regions considered, and the complex composition of social interests on which they are founded. The economic characteristics of the networks (economies of scale and scope, club effects, transactions costs) and the question of corporate image, the *design* of the reforms, the regulatory function exercised by the public authorities (a function which is quite context-dependent) on various scales conduce to supply patterns that are generally quite remote from pure competition and full commodification. And reforms do not necessarily lead to increased segregation (inequality) or unbundling (removal of solidarity) in terms of access to essential services. The social and urban impact of these reforms can only be appreciated in a reasonable manner on the basis of a profound analysis of the various interactions, over a period of time, between these reforms and the urban context within which they take place.

Notes

- ¹ In order to understand the thesis defended by Graham and Marvin, and the discussion of that thesis here, it is useful to clarify the meaning of the notions at play: inequalities, segregation, differentiation, discrimination, splintering, secession, polarisation, withdrawal from (or collapse of) solidarity ... The concept of urban splintering, in the sense in which we employ it, refers to the disintegration of former socio-economic interdependencies and to tendencies towards the withdrawal from (or collapse of) solidarities. This idea is the opposite of urban integration or cohesion, which emphasises the links of interdependence and solidarity that contribute to the cohesive operation of cities and therefore to the fact that cities are 'society-making'. The impulses of political and fiscal secession that can be witnessed in Los Angeles, or the increasingly polarised settlement patterns in many urban areas, thus appear as symptoms of this fragmentation or splintering. This notion of splintering differs from that of socio-spatial segregation, which

draws more on the idea of a clear spatial expression of economic or social inequalities. Clear segregation is completely compatible with, for example, a high degree of economic integration (see May et al. 1998; Jaglin 2001).

- 2 One particularly thinks of works which address the regulatory systems applied to capitalism.
- 3 I base myself on work carried out in a number of cities where the development of technical networks and older ones (over a century old) is significant (a significant fraction of the population having access to these networks), but which are characterised by highly contrasting national and urban contexts in terms of economic development, social and urban policies, policies in terms of utilities, social make-up, density or widely spread settlement patterns, the rhythm of demographic growth ... Six urban monographs were established under a LATTTS research project: Buenos Aires (Botton & de Gouvello 2005), Cape Town (Jaglin 2005b), Los Angeles (Boudreau & MacKillop 2005), Mumbai (Bombay) (Zerah 2005), Paris (Bocquet, Chatzis & Sander 2005; Chatzis & Coutard 2005) and Santiago, Chile (Pflieger 2005). Work on the urban areas of Bogotá (Coing 2005), Jakarta (Kooy & Bakker 2005), Lima (Fernandez-Maldonado 2005), Rome (Bocquet & MacKillop 2005) and Stockholm (Rutherford 2005) also contributed to my reflections. This research was made possible through the financial support of the French National Centre for Scientific Research (CNRS) and of the *Plan Urbanisme Construction Architecture* (PUCA) of the French Ministry responsible for urban equipment and development, which I would like to gratefully acknowledge.
- 4 These works primarily concern water, waste water / sewage and electricity networks.
- 5 Unless they accept very high, and thus prohibitive, costs to have the connection restored.
- 6 An extension which results from the combination (specific to the urban region under consideration) between the characteristics of the reform and the factors mentioned above (public will to universalise, public control of land, small proportion of households in situations of extreme poverty).

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