

SURVEILLANCE AND URBAN MOBILITY

Francisco Klauser

Today, computerised systems that act as conduits for multiple, cross-cutting forms of data gathering, transfer and analysis control, protect and manage everyday life on many levels, and for manifold purposes. Think of the rapidly expanding use of RFID chips in tickets and goods, the increasing number of surveillance cameras in public places, or of smart traffic and navigation systems. The digital age has spawned a range of novel techno-mediated forms and formats of surveillance, understood here as the ensemble of focused, systematic and routine practices and techniques of attention, relating to human or non-human objects, for purposes of influence, management, protection or direction (inspired by Lyon, 2007: p.14).

From this evolution result novel techno-mediated ways of ordering and managing presences and flows of human and non-human objects. For example, smartphones and other self-tracking devices work through the continuous localisation of mobile people and objects. Many of these devices then offer place-, user- and practice-specific information and services that act on the ways in which we access and pass through differing urban spaces (De Souza e Silva & Frith, 2012; Graham, Zook & Boulton, 2013; Widmer, 2015). In the field of smart urban infrastructure, a similar spatial dynamics can be found, responding to the need to manage the city as an interconnected, digitised and 'technologically empowered' (IBM, 2010) system of connections, processes and flows.

Connecting with this problematic, this chapter discusses and problematises contemporary surveillance from a specific urban and mobility-related viewpoint, highlighting how digital technologies, whether mobile themselves or fixed in place, control and regulate movement within and in-between cities. Drawing upon existing literatures that explore the relationships between surveillance and space (Graham, 1998, 2005; Koskela, 2000; Franzén, 2001; Coaffee, 2004; Duarte & Firmino, 2009; Zurawski, 2013; Klauser, 2013, 2017), this discussion is structured into three main parts. They outline three complementary ways to approach and problematise the imbrications of urban surveillance and mobility, relating to (1) separation and access control, (2) the management of humans and non-humans on the move, and (3) the internal organisation of interconnected places.

Separation and access control

The first direction of research from which to address issues of urban surveillance and mobility revolves around the 'splintering urbanism problematics' (Graham & Marvin, 2001). Relevant literatures highlight and problematise current trends towards the fragmentation of cities into a patchwork of 'more or less purified insides, separated from more or less dangerous outsides' (Franzén, 2001: p.207). Hereby, separation and enclosure are seen not only on a physical level, but also related to the creation of more or less rigid and exclusive forms of togetherness, thus structuring the city into a patchwork of secluded spherical conglomerates of co-isolation (Klauser, 2010). Resonating with Peter Sloterdijk's (2004) analysis of the 'foam city', studied examples range from inner city zones (Coaffee, 2004), gated communities (Connell, 1999) and shopping malls (Helten & Fischer, 2004; Benton-Short, 2007), to recreational facilities, leisure spaces and bunkered private homes (Flusty, 1994).

In these studies, surveillance is approached as a combined problematic of enclosure and accessibility, and set in relation to the monitoring and regulation of flows of people and objects, crossing different kinds of borderlines at particular points in space. The key issue is access control, implying a spatial logic of power that encloses and keeps places, people, objects and functions apart (Bauman, 2000: p.115; Boyne, 2000). Yet importantly, access control is not only about fixing, demarcating and fragmenting space, but also about allowing and facilitating entrance or exit, and thus flow. Enclosure lays the fixed conditions and frame within and through which circulations are allowed to develop, implying a range of more or less technology-driven processes of differentiation and categorisation of 'good' and 'bad' flows, and relying on differing efforts of data gathering, analysis and exchange. This resonates with Foucault's (Foucault, 2007 [2004]) understanding of the rationalities of power that characterise apparatuses of 'security', as the economy of power, starting in the eighteenth century, that characterises liberalism. Following Foucault (2007 [2004]):

An important problem for towns in the eighteenth century was allowing for surveillance, since the suppression of city walls made necessary by economic development meant that one could no longer close towns in the evening or closely supervise daily comings and goings. [...] In other words, it was a matter of organizing circulation, eliminating its dangerous elements, making a division between good and bad circulation, and maximizing the good circulation by diminishing the bad.

(p. 18)

Host cities of sport mega events provide a powerful contemporary example of this problematic. Leading to the installation of dozens of kilometres of fences throughout the urban environment, major sporting events imply a wide range of more or less hermetically enclosed and tightly controlled security perimeters that are supported by advanced surveillance technologies and increased numbers of security personnel (Klauser, 2013). Examples range from stadium security rings to the referee headquarters, from team hotels to fan zones and from private camping grounds to official fan villages (offering accommodation and attractions for fans). Hereby, different levels of accessibility are not merely conditioned by a rigid binary opposition between those permitted and those prohibited to enter, but adapted meticulously to the specific profiles (needs, risks, etc.) of entrants. This exemplifies the contemporary evolution towards an ever-more sophisticated and complex analytics of access management that depends on ever more sustained efforts in gathering, analysing and

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Such processes of ordering (i.e. privileging and restricting) presences and flows raise a series of power issues that are of particular importance, especially if the differential treatment of people and objects not only results from risk assessments and security considerations, but also responds to private interests and commercial rationales. Also, the study of access control is crucial not only to an understanding of how surveillance affects secluded spaces themselves, but also to highlight the resulting implications for the remaining outside space. For Franzén (2001: p.206) 'the urban order in a particular place is determined, at least partially, by the unintended, and cumulative, consequence of all border controls'. One particularly important question arising here for future research is how access control relates to current trends of polarisation and hierarchisation of space, reinforcing, for example, the opposition between economically attractive zones and areas of concentrated social disadvantage.

Importantly, a crucial lesson derived from this line of research is that the distinction between inter-state border control and the monitoring of everyday urban borders and access points is increasingly blurred from a spatial, functional, technological and organisational viewpoint (Albert & Jacobsen, 2001; Lyon, 2005; Salter, 2005; Amooore, Marmura & Salter, 2008: p.96). As Graham (2010) puts it:

Borders cease to be geographical lines and filters between states (always an oversimplified idea) and emerge instead as increasingly interoperable assemblages of control technologies strung out across the world's infrastructures, circulations, cities and bodies.

(p.132)

Again, consider the example of sport mega events. Here, 'risky' foreign fans encounter access control and denial somewhere in between their private home (through requests to report to their national police during the tournament, or by unsuccessfully trying to book an aeroplane or tournament ticket online), at the national border of the host nation or at the entrance gates of stadiums, training grounds or fan zones (through police spot checks and biometric fingerprint identification devices). Thus access control in urban space is part of a larger, multi-scalar system of threat filters situated both within and outside the host nation's territory, implying an increased dissociation of surveillance-as-border-control from the territorial frontiers (Albert & Brock, 1996: p.62). This 'de-bordering process' (Rumford, 2006; Côté-Boucher, 2008) is at the very core of the splintering urbanism problematic. As such, it is not exclusive to mega-event security, but the special conditions of, and measures at, sport mega events add further importance to it.

In turn, this exemplifies that if access control is shaped by the search for the right balance between enclosure and openness, fixity and fluidity, this does not mean that these rationales are necessarily to be seen as antagonistic. Rather, they embody and nourish each other (Foucault, 2007 [2004]: p.107). With the management of circulations and openness, as in the example of sport mega events, the problem of fixity and enclosure is not eliminated, but made more acute. Access control highlights that surveillance often combines in both complementary and conflictual ways elements of fixity and flow. Indeed, it is in the very balancing hence implied that lies the key problematic of the surveillance of movement, in terms of power, social justice, etc., as I will discuss in more detail below.

Management of humans and non-humans on the move

A second direction of research into the problematic of urban surveillance and mobility revolves around the question of how – and to what effect – multi-layered surveillant assemblages coalesce around mobile people and objects themselves. The key concern here lies in the continuous monitoring and management of people and objects on the move (Buhr, 2003; Côté-Boucher, 2008; Cowen, 2010; Firmino, Duarte & Ultramari, 2011; Martin, 2012; Salter, 2013; Klauser & Albrechtslund, 2014). There are two complementary aspects to highlight.

Firstly, think of the infrastructural dimension of the surveillance of (human and non-human) objects on the move. Relevant research is concerned with how digital technologies today permeate the key infrastructural networks underpinning everyday urban life (Debrix, 2001; Wekerle & Jackson, 2005). Examples range from computerised motorways and energy grids, to the digitisation of water pipelines and public transport systems. Thus, from this perspective, the contemporary 'smart city' appears as a vast 'programme of government of movement' (Côté-Boucher, 2008), aimed at establishing the routes along which movement happens, and that allow the channelling, monitoring and restriction but also facilitation and speeding up of various types of circulation, from passage point to passage point, from separation to separation, from enclosure to enclosure. The emerging system of 'conductive lines' thus stands for a spatial logic of surveillance that maps to, without being synonymous with, enclosure and access control.

Secondly, increased attention has been paid in recent years to the surveillant capacities of increasingly mobile, ubiquitous and smart information and communication technologies, with a particular interest in how such devices embrace and manage circulations. This applies for example to smartphones and other self-tracking devices, which work through the continuous geo-localisation of mobile people and objects (Dodge & Kitchin, 2007). The place-, user- and practice-specific information and services, offered by such devices, organise, guide and regulate flows and presences of people and objects as they navigate through urban space (Widmer & Klauser, 2013). What matters is the regulation and management of openness and fluidity, rather than the fixing and enclosing of particular places, people, objects and functions (Farman, 2011; Monahan & Mokos, 2013).

This, again, implies important implications in terms of urban organisation and polarisation. Namely, as shown by De Souza e Silva and Frith (2012), location-aware mobile applications enable, but also push, their users to target specific relationships with the spaces and people around them. Addressing this problematic through the lens of socio-spatial media such as Foursquare, Widmer (2015) concludes:

The visibilities and invisibilities of places are ... shaped by Foursquare's personalisation algorithms, which prioritise two specific alterities: users' friends on the platform and people whose behaviours are similar to theirs. By highlighting recommendations on places frequented by these two alterities, Foursquare enables its users to make informed decisions and go to places approved by people who have tastes similar to their own. It has been argued that, by reducing alterity to these two figures ('my friends' and 'people like me'), Foursquare could potentially accentuate homophily patterns and strengthen specific forms of togetherness. The 'bubble' metaphor, proposed by Pariser (2011), has proved to be useful in describing those homophilous communities mediated by software sorting operations.

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Taken together, the two lines of enquiry provide much needed accounts of how surveillance works to align the circulation of mobile bodies, data, objects and services with localisation, identification, verification and authentication controls, and of how the practices and techniques of surveillance engage with the key infrastructural networks that aim to filter and manage movements within and between cities (Debrix, 2001; Wekerle & Jackson, 2005).

Managing movement through internal organisation

Whilst both aforementioned research directions offer important insights into the control and management of spatially articulated separations and connections on the urban scale as a whole, attention should also be given to how surveillance relates to, and permeates, monitored places and buildings themselves if we are to understand the management of movement across and within urban space. For example, transport nodes such as airports, railway and metro stations are not only to be studied as filtering points for the procession of urban mobility as a whole (Castells, 1996; Fuller, 2002), but also as security zones in their own right, i.e. as carefully planned worlds of spatially articulated limits, channels and filters that respond to the need to control and regulate flows of people and objects, processed from point to point, from zone to zone (Klauser, 2017).

In scholarly research, attention has also to be given to how surveillance monitors and affects movements within particular spaces of surveillance and security, thus setting surveillance in relation to the 'internal organisation' of particular geographical locales, from buildings to public squares and larger urban areas. Of particular note here is Andrzejewski's (2008) study of the imbrications of architecture and surveillance in factories, post offices, prisons, religious camps and private homes in Victorian America, which shows in detail how specific forms of spatial organisation enable, and result from, the monitoring of indoor micro-movements by servants, workers, believers, etc. Others have investigated, for example, the spatial articulation of surveillance relating to the management of micro-flows in airports (Klauser, 2009), shopping malls (Helten & Fischer, 2004) and football stadia (Bale, 2005; Hagemann, 2007), as carefully organised and subdivided spaces of surveillance.

This brings us back to the example of sport mega events (Klauser, 2013, 2017). For example, at the European Football Championships 2008 in Switzerland and Austria, stadium perimeters were subdivided into 13 different zones, each of which was matched with different routes, control points and modalities of access for differing fan communities, dignitaries, commercial partners etc. In the case of fan zones, internal structuring consisted of the use of 'wave breakers' (physical barriers and obstacles (Republik Österreich, 2008: p.48) and of the erection of stands and platforms related to special activities and access criteria. Internal zonal surveillance ranged from patrolling security agents and CCTV cameras to the Scanning Infrared Gas Imaging System for the detection of hazardous chemicals deployed in Bern and Basel (Projektorganisation Öffentliche Hand, 2008: p.47). In both cases, internal monitoring and organisation aimed for the planned, hierarchical and functional distribution of people and objects across the enclosed inside, bound up with differential access control. Unlike in open public space, security in fan zones and stadiums was delegated to Euro 2008 SA, which accomplished the task by contracting private security companies. Constructional, technical, organisational and operational security aspects in both zones thus fell under the authority of UEFA, with national and international police ready to intervene if need be. Thus surveillance differed from adjoining space not only in intensity, spatiality and internal organisation, but also in substance and regulative principle.

In sum, if we are to understand the regulation of movement within and across cities, it also matters to study how particular spaces are internally organised around surveillance and how, in turn, surveillance is shaped by the specific characteristics of particular places. Yet in such micro-geographical studies, the wider picture regarding surveillance and intra- or inter-urban mobilities should not be lost. Therefore, one central objection is that such studies often ignore the broader networks within which the studied micro spaces of surveillance are positioned and monitored. In this sense, this research direction not only contributes to, but also depends on the previously outlined perspectives.

Conclusion

The three directions of research discussed above are not mutually exclusive. Indeed, many studies touch on various spatial logics and scales of surveillance. For example, Jones's (2009) analysis of 'checkpoint security' and Graham's (2010) work on 'passage point urbanism' powerfully combine the separation/access-control and 'mobility management on the move dimensions' of surveillance. However, both Jones and Graham largely overlook how exactly spatial enclaves are organised and monitored internally through everyday surveillance practices. In turn, many studies dealing with urban enclosures and fragmentation emphasise both the access control to, and internal surveillance of, secluded zones, but do not consider how flows of people and objects are monitored, channelled and filtered in between fortified places.

The present chapter invites further development of the surveillance-mobility problematics, in approaching urban surveillance simultaneously in its enclosing and separating dynamics, and in relation to the opening up of cities and to the management of flows of people and objects on the move. From this perspective, the city has been portrayed as a complex system of separations and connections, in which differing spatial logics of surveillance call on each other, support each other, modify and shape each other.

This discussion was mostly programmatic and exploratory in aim and style. Today, little is known about the dissonances and resonances between surveillance practices and techniques relating to separation, access control, circulation and internal organisation. The ways in which surveillance focuses on, embraces and in turn results from urban mobilities should be explored in much more empirical detail. The ambition thereby should be to study and to conceptualise surveillance as an ensemble of heterogeneous techniques and practices of control and power that are intrinsically bound up with mobility, through multiple processes and relationships, on different scales and for numerous reasons. To conclude, I here want to reiterate two key issues that should guide such a research agenda.

Firstly, the collection, classification and analysis of data is never neutral, but depends on a range of choices made and interests conveyed by the involved actors, whether aimed at greater efficiency, convenience or security. Information management, and management through information, thus work through and depend on novel forms and possibilities of differentiation and prioritisation, used to orchestrate everyday life and affecting the life chances of individuals or social groups in ways that are often unknown by the public. Critical debates about the implications of surveillance on everyday urban mobilities should therefore move beyond privacy, data protection and accountability issues, to challenge, more generally, the functioning of surveillance as a technique of social sorting that restricts, facilitates and organises flows and presences in and through urban space in often problematic ways (Graham, 1998, 2005; Lyon, 2003).

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Secondly, if surveillance orchestrates urban space by sorting access, filtering flows and organising presences, it does so in ever more automated ways (Hinchliffe, 1996; Thrift & French, 2002; Dodge, Kitchin & Zook, 2009; Kitchin & Dodge, 2011; Amoore, 2011). Thus the key issue here relates to the agency and power dynamics implied by software. How do computerised and increasingly automated techniques of surveillance mediate the organisation and production of particular forms of mobility within and across cities? What are the wider societal implications thereof? Hereby, it will be of crucial importance to avoid the trap of overstating the agency of software in a deterministic way. In recent years, an ever more impressive body of research has shown that the effects of surveillance are much more contingent and complex than often expected. Drawing particularly upon Michel de Certeau's (1984) work, scholars have stressed the micro tactics and strategies deployed by individuals and social groups to resist, bypass and subvert surveillance (Marx, 2003). It is in this spirit that the question of how software-mediated surveillance orchestrates space must be approached. Future research should further pursue this line of investigation, so as to provide more detailed accounts of how exactly emerging geographies of regulation-at-a-distance work to align the circulation of mobile bodies, data, objects and services with localisation, identification, verification and authentication controls, and of how the practices and techniques of surveillance engage with the key infrastructural networks that aim to stop and accelerate, channel and filter movements within and between cities.

Acknowledgement

This chapter draws upon two previously published pieces of work, relating to surveillance and sport mega events (Klauser, 2013), and to the interactions between surveillance and space more generally (Klauser, 2017).

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