

Too public or too private?

The politics of privacy in the real-time city

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Abstract—While it is commonly acknowledged that the collection, storage, analysis, reporting and sharing of digital information about the activities of urban inhabitants raise significant privacy concerns, the nature of these concerns is not always clear. Indeed, we have seen the simultaneous emergence of strong concerns about *both* ‘the end of privacy’ and ‘the privatization of public space’. The paper argues that such concerns are not in fact contradictory. Rather, these concerns draw our attention to the fact that the fate of privacy is intimately connected to the fate of publicness. Indeed, the position set out in this paper is that advocates and designers of urban informatics systems can best *protect personal privacy* by making the capture, storage and analysis of personal electronic information *more public*. After setting out the reasons for this position, the paper speculates on some of its implications for systems design and regulation.

Keywords—urban informatics; privacy; urban politics; rise of the social

I. INTRODUCTION

“A momentary pause on a street corner in the heart of a city never fails to fascinate, whether in the thick of rush hour, the dawning of a day, the late evening hours, a Saturday, a Sunday, or a holiday occasion. People coming from somewhere, going somewhere. Persons in motion, repose, or conversation – each with a home address, most with a family, a circle of relatives, friends, neighbors, and acquaintances, and some with a web of affiliations extending to church, clubs, and other groups. Each individual possessing a network of ties in space – ties to different places in the city, but sometimes to other cities or places – business contacts, vacations, visits, and the like. Each individual also possessing a network of ties back in time – ties that take him back to prior events in the day, the week, or the year, to earlier years here in town, to other cities or places, and finally, to a homeplace.

“Such a street corner glimpse, with all its richness of life, its humdrum, or its isolation – real or imagined – is but a sampled impression of one moment in time and at one point in one particular metropolitan area. How to capture the essence of this life in synoptic fact? How to extend one’s grasp from a single street corner to all the byways of the city, and from a single instant to all those before and after? In short, how to describe the living patterns of a city – how people play out different routines, assume different roles, and possess different predispositions to do things in particular ways? This is what the study of human activity patterns seeks to do. It is a noble

purpose, one fraught with many difficulties, yet one that is slowly being implemented and with improving success.”

F. Stuart Chapin (1974) *Human Activity Patterns in the City: Things People Do in Time and Space*, p. 1

I begin with this lengthy passage from 1974 because it very effectively dramatizes recent advances in our capacity to map the complex dynamics of urban life. The people, places, and infrastructures of cities are increasingly equipped with networked electronic data collection and processing capabilities, and the cost of collecting, storing and analyzing this data has spiraled downwards. With the growth of urban informatics, the dreams of yesterday’s urban planners and researchers may have become a reality for their contemporary counterparts. These new technologies, it is claimed, are “giving us the ability to sense, map and visualize these previously invisible processes” so that we will be able to “see cities as a whole the way biologists see a cell – instantaneously and in excruciating detail, but also alive” [1: pp. xxiv, xxvi].

Chapin’s “noble purpose” in 1974 was to find ways to capture the essence of human activity patterns in the city in order that they “be more clearly understood and taken into account in planning and policy decisions” [2: p. vii]. Such aspirations resonate with the aspirations of many of today’s urban informaticians, who hope that the collection and analysis of digital data about urban activity patterns in real-time might enable us to “evaluate the effectiveness and efficiency of the processes we observe in order to plan, design and develop more liveable cities” [3: p. xxviii].

But as William Mitchell has observed, while many of the applications of these technologies may have worthy social and environmental goals, there is an urgent need to “investigate the ethical and policy issues that this technology raises, and the design expression and practical implementation of appropriate privacy and other principles” [4: p. 64].

In this paper, I offer a conceptual framework which might inform efforts to identify and address the privacy issues raised by the use of new urban informatics technologies. My main argument is that advocates and designers of urban informatics systems can best *protect personal privacy* by making the capture, storage and analysis of personal electronic information *more public*. The paper will elaborate on this proposition in the following steps. First, I consider the simultaneous emergence of apparently contradictory concerns about the loss of privacy

and the privatization of public space in contemporary cities. Then, I consider two related dimensions of the public-private distinction which are pertinent to a discussion of urban informatics – audience and collectivity – in order to make the case that fate of personal privacy is intimately connected to the fate of the public sphere. Finally, I discuss what it might mean to enact a politics of urban informatics which can address privacy issues.

II. URBAN INFORMATICS, PRIVACY AND PRIVATISATION

It is not surprising that concerns about changes in everyday urban life associated with urban informatics should be expressed through the language of the public-private distinction. As Ali Madanipour has observed, “Ever since the rise of the city, ... public-private distinction has been a key organizing principle, shaping the physical space of the cities and the social life of their citizens.” Across time and space, this distinction between public and private is “one of the key lenses through which we see and interpret our daily lives” [5: pp. 1, 47].

What is perhaps surprising is that the emergence of new urban informatics technologies has evoked strong concerns about *both* ‘the end of privacy’ *and* ‘the privatization of public space’ [to take the titles of 6, 7]. Indeed, the contemporary literatures on both privacy and publicness in the city are full of narratives of loss and decline. In his survey of the literature on privacy, Daniel Solove notes that:

Countless commentators have declared that privacy is ‘under siege’ and ‘attack’; that it is ‘evaporating,’ ‘dying,’ ‘shrinking,’ ‘slipping away,’ ‘diminishing,’ or ‘vanishing’; and that it is ‘lost’ or ‘dead.’ Legions of books and articles have warned of the ‘destruction,’ ‘death,’ or ‘end’ of privacy. As Professor Deborah Nelson has put it, ‘Privacy, it seems, is not simply dead. It is dying over and over again.’ [8, p. 5]

In an earlier survey of the literature on publicness, Bruce Robbins similarly found that:

The list of writings that announce the decline, degradation, crisis, or extinction of the public is long and steadily expanding. Publicness, we are told again and again and again, is a quality that we once had but have now lost, and that we must somehow retrieve [9: p. viii].

Such writings on the privatization of public space have only gathered momentum since Robbins’ diagnosis [as noted by 10, 11].

What should we make of the simultaneous emergence of concerns about the loss of privacy and privatization? Surely both cannot be true? Certainly, such claims should not be accepted uncritically, as they are often premised on rather hazy elaborations of their core concepts. While many commentators seem to agree on the importance of privacy and publicness, there is far less agreement on what they actually mean and why they are important. With regards to privacy, Solove claims that:

there appears to be worldwide consensus about the importance of privacy and the need for its protection. Beyond this outer layer of consensus, however, lurks an

underworld of confusion. What exactly is privacy? Why is it worth protecting? How valuable is it?” [8: p. 4]

I have made a similar claim about the apparent consensus on the importance of public space, arguing that “far too often, [models of public space are] ambiguous and under-theorized, featuring as an afterthought to tales of exclusion and loss” [10, p. 6].

And yet, notwithstanding the validity of these criticisms, the emergence of apparently contradictory concerns about both privacy and privatization may also signal something important with respect to urban informatics. The simultaneous emergence of these claims might not be either a contradiction or a coincidence. In fact, as I now want to argue, while private and public realms of urban life are defined in *distinction from* one another, they are also fundamentally *dependent upon* each other for their existence. As such, if some applications of urban informatics have the potential to threaten privacy, this may indeed be related to their lack of publicness. But to unpack this claim, it is first necessary to consider the related but distinct dimensions of the public-private distinction and its relationship to the real-time city.

III. PRIVACY PART I: AUDIENCE AND EXPOSURE IN THE REAL-TIME CITY

As Michael Warner observes, “Almost every major cultural change – from Christianity to printing to psychoanalysis – has left a new sedimentary layer in the meaning of the public and the private” [12: p. 28]. Similarly, the emergence of urban informatics adds a new layer of meaning by further transforming the scope and possibilities of privacy and publicness.

But exactly what kinds of privacy issues are raised by the development and application of urban informatics? While it is commonly acknowledged that the collection, storage, analysis, reporting and sharing of digital information about the activities of urban inhabitants raise significant privacy concerns, the nature of these concerns is not always clear. Indeed, use of the conceptual vocabulary of ‘public’ and ‘private’:

often generates as much confusion as illumination, not least because different sets of people who employ these concepts mean very different things by them – and sometimes, without quite realizing it, mean several different things at once [13: pp. 1-2].

The public-private distinction is not a simple binary, but rather a distinction which has several distinct but overlapping dimensions. The first step to answering our question, then, is to develop a much clearer appreciation of the multi-dimensional nature of the public/private distinction [this account draws particularly on 10, 12, 13, 14].

Privacy has two related families of meaning that are pertinent to a discussion of the implications of urban informatics. The first family of meanings relates to *audience and exposure*. Those things or aspects of ourselves that are kept private are those whose audience is known, intimate and specified in advance. To keep something private is to restrict its exposure. In contrast, those things or aspects of ourselves that

are public are those which are accessible to an audience of unknown strangers. Unrestricted exposure is a condition of possibility for publicness.

Now, the geography of audience and exposure in the modern city is quite complex. For instance, we might stage a private conversation in a public space – meaning that our words are addressed only to a specific audience of intimates even as we inhabit a space in which we are visible to an audience of unknown strangers. Further complexity has been generated by the successive rise of new media and communications technologies, which have meant that determining the extent of the audience for our actions is not as simple as observing those with whom we share a physical space. Representations of our actions may circulate in a variety of media formats, such that the extent of our audience is as much a product of *publication* as it is of *co-presence* in any given space. As such, while “private and public have often been commonly and sensibly understood as distinct zones”, “this ideology and its architecture represent an ideal or extreme type. Public and private are not always simple enough that one could code them on a map with different colors” [12: pp. 26, 27].

Indeed, this dynamic interaction between physical space and media has been steadily transforming the articulation between the private, the public and the urban over several centuries. Publics and privates “are each constantly shifting and being performed in rapid flashes within less anchored spaces” [15: p. 108]. Think of the ways in which apparently *private spaces* have become the context for combinations of private and public activities. For instance, activities in notionally ‘private’ domestic spaces might reach a public audience through the taking of photographs and their subsequent circulation in home-making magazines. Or, we might become part of a public discussion as radio listeners, television watchers or bloggers from the comfort of our bedrooms. The audience for activities in *public spaces* has also been transformed with the emergence of modern media. We might think here of the ways in which activities such as speech-making and protests reach public audiences well beyond the co-present public, through newspaper and television coverage of these events. In these cases, the audience is not restricted to those in the shared physical space or the time of the event. Rather, there are spatial and temporal displacements, as media both *extend* the geographical reach of one’s audience beyond the physical space and *prolong* the traces left by our actions in media archives and collective memory.

In this context, as Beatriz Colomina has observed, in order to manage our privacy we have all had to (try to) become “experts in our own representation” [16: p. 8], navigating the complex geographies of audience that have emerged through the interaction of our built environment with the mass media, with its associated spatial and temporal displacements.

The growth of urban informatics technologies has further contributed to these spatial and temporal displacements. The deployment of electronic sensors and the diffusion of mobile and locative media have worked to weave together physical urban space with the information space of the world wide web [4: p. 16]. This has been experienced by many urban inhabitants as a further challenge to their capacity to manage

their privacy by navigating the geographies of audience. As digital technologies enabling the collection and storage of electronic information about our movements, activities, associations and transactions become cheaper and more advanced, the potential audience for our actions becomes less bound and less knowable. As Adam Greenfield has pointed out, this often occurs in the absence of a conscious decision to engage with these systems. As urban and digital spaces are woven together through ubiquitous computing and ambient informatics, we may engage these systems inadvertently, unknowingly, or indeed unwillingly [17: p. 66].

Concerns about this transformation are frequently expressed as privacy concerns – what is at stake is the extent of the possible public audience for our activities and the possibilities for control and impediments to autonomy that such exposure might enable. It is one thing for us to make a purchase in front of other shoppers in the store, or to share a street with other pedestrians. It is quite another to have our shopping and walking habits logged and profiled through the collection, storage and analysis of digital information generated by our shopping. Our activities now cast deep digital shadows, and the data sets collected by a vast range of urban computing systems and sensors have the potential to be mined by, and/or disseminated to, distant others in the present or in the future. Reacting to this, Wolfgang Sofsky argues that our contemporary societies are characterized by “excruciatingly pervasive public spheres” precisely because “people leave more traces behind them than they realise” [18: p. 7].

Now, these new circumstances have generated a wide range of responses. At one end of the spectrum, there have been attempts to obstruct the collection of digital data about the city. Recently in England, for example, residents of the village of Broughton surrounded a Google Street View van and ran it out of town before it could film their streets and homes [19]. At the other end of the spectrum, there has been a positive embrace of the ‘end of privacy’, based on communitarian critiques of the Enlightenment concept of a society constituted by autonomous individuals who can choose what to reveal and what not to reveal about themselves [20]. In between such extremes, we have seen a range of responses which seek to regulate and modify the deployment of informatics technologies in ways that might assist individuals to better manage (the extent of) their privacy, by enhancing their capacity to map the extent of their audience in different situations. Such efforts include the use of consent and disclosure notices, proposals to allow networked individuals to apply automatic privacy profiles, and calls for the technologies themselves to be made more visible and ‘seamful’ rather than invisible and seamless [see for example 17, 21, 22].

Certainly, such measures can help individuals to play an active role in managing their own privacy by giving them some level of awareness about their exposure in different contexts. For Lederer *et al.* [23], such efforts should not seek to defend some line of absolute privacy. Rather, they should enable users to make determinations about the *precision* of both the personal electronic information that is disseminated and the audience to whom it circulates.

However, while these approaches to helping individuals manage their privacy are necessary, they are not sufficient for privacy protection. Even if individuals can be made aware of their levels of exposure in different contexts, and even if that exposure requires their active consent, this does not of itself put power or control back in the hands of the user. For instance, if an individual decides she is uncomfortable about the level of privacy afforded in a particular urban context, the choice about whether or not to 'opt out' may have consequences for her capacity to access vital infrastructures and services [17: p. 246]. Access to such infrastructures and services will therefore be shaped by societal determinations about the things or aspects of ourselves we should legitimately expect to be able to keep private. If privacy measures are conceptualized from the perspective of the *individual user*, we risk neglecting these important societal or *collective* dimensions of privacy [24: p. 93].

IV. PRIVACY PART 2: THE POLITICS OF PRIVACY AND URBAN INFORMATICS

Which things or aspects of ourselves should we legitimately expect to be able to keep private, protected from exposure before an audience of unknown strangers? Along with other critical theorists of the public-private distinction, I take the view that the answers to this question can not be extrapolated from some atomistic, abstract and universal concept of the individual. Rather:

Individual liberties should be justified in terms of their social contribution. Privacy is not just freedom from social control but is in fact a socially constructed form of protection. The value of privacy does not emerge from each form of privacy itself but from the range of activities it protects [8: p. 174].

From this critical-theoretical perspective, questions about the kinds of things/actions that individuals ought to be to keep private (in the sense of being protected from public *exposure*) should be treated as questions about which forms of privacy are in the public *interest*. This introduces the second family of meanings for privacy and publicness, which relate to the *collectivity* of an agent or interest. In this sense, the conceptual vocabulary of public and private is used to distinguish between what is collective, or affects the interests of a collectivity of individuals, versus what is individual, or pertains only to an individual [13: pp. 5, 14]. Drawing together these two dimensions of the public-private distinction, I would agree with Berlant and Warner that "there is nothing more public than privacy" [25]. In other words, the question of where the line is to be drawn between public and private (as forms of exposure) is a matter of public or collective interest. As such, our analysis of privacy laws and norms must also focus on the ways in which this 'public interest' is defined and institutionalized in different contexts.

In *The Human Condition*, Hannah Arendt was particularly concerned to understand different ways in which the public interest comes to be framed and understood in contemporary societies. For Arendt, the growth modern mass societies witnessed the rise of a new mode of publicness which she referred to as 'the social'. She argued that in increasingly complex and large societies, a genuine democratic politics

premised on the negotiation of plurality and difference came to be increasingly supplanted by instrumental and technocratic efforts to normalize behavior in the name of a society "which has only one opinion and one interest" [26: p. 39]. More recently, thinkers such as Jacques Rancière and Slavoj Žižek have identified a similar dynamic with the rise of what they call the 'post-political' [27, 28]. Their concept of the post-political refers to an anti-political politics which seeks to put established social arrangements beyond the reach of legitimate political debate. This is not to say that there is no space for disagreement, but rather that disagreement is contained to figuring out the best methods for advancing interests which are taken-for-granted as being 'society's best interests'. As Žižek puts it, there is a:

gap that separates a political act proper from the 'administration of social matters' which remains within the framework of existing socio-political relations: the political act (intervention) proper is not simply something that works well within the framework of existing relations, but *something that changes the very framework that determines how things work* [28: p. 199].

Now, if privacy is a matter of public interest, these different ways of determining the public interest will have profound consequences for the fate of privacy. To put it crudely: will privacy protections be determined by experts, planners and administrators who claim to be acting in the best interests of a *society* which is framed post-politically as having "one opinion and one interest"? Or will they be established (and challenged) with reference to a public debate which pre-supposes no particular privacy configuration being in (or against) the best interests of society, based on the assumption that privacy is properly a matter for a *politics*?

We can now see why contemporary concerns about the erosion of both privacy and publicness in the city are not necessarily contradictory. Rather, the fate of privacy is intimately connected to the fate of publicness. Arendt was concerned about the rise of the social precisely because she was worried it would "devour" both the public and private realms [25: p. 45]:

It seems to be in the nature of the relationship between the public and private realms that the final stage of the disappearance of the public realm should be accompanied by the threatened liquidation of the private realm as well [25: pp. 60-61].

From this perspective, privacy needs a strong and democratic public realm to establish and protect it. If the public interest is "reduced to a single perspective" [29: p. 362], then the scope of privacy will be reduced as well – for only those privacy protections which are not inconvenient or obstructive to the smooth, efficient administration of society will be acceptable. Should this occur, the forms of diversity which are protected by privacy and welcomed in a democratic public sphere are under threat [30]. Only if the public interest is conceived politically can a democratic politics of privacy emerge, in which privacy protections are not placed in an adversarial relation with the public interest [24: pp. 96-97].

This consideration of the twin fates of privacy and publicness and their relation to the ‘the social’ is potentially very useful in helping us to further consider privacy issues raised by the growth of urban informatics. It suggests that the manner in which the ‘public interest’ is framed in the development, deployment and regulation of urban informatics becomes a matter of crucial importance for privacy protection. Of course, a range of logics and assumptions inform different applications of urban informatics [21, 31], and it is not possible for me to survey them all here. Instead, I want to confine my discussion to the field of *urban planning*, which is particularly pertinent in the context of the Engaging Data Forum.

The emerging literature in the planning field contains numerous references to ‘urban metabolism’, ‘urban ecology’, and ‘urban systems’ [1, 3]. Such ideas or metaphors drawn from the natural and medical sciences have long been used to understand the form and function of cities [32: p. 64]. Perhaps they are attractive to some urban informaticians because they evoke the complexity, diversity and dynamism of cities which now seems increasingly visible via urban informatics technologies. And if urban informatics technologies equip the planner to see the city in ever-finer detail, it is hoped that they might thereby assist the planner to make improvements to the city.

The question is: to what extent do these metaphors reveal an anti- or post-political understanding of the city within these aspirations for urban informatics? Matthew Gandy [32: p. 64] suggests that:

Underlying many formulations of the ecological imaginary ... there is an implicit naturalization of urban processes so that urbanization is no longer conceived as the outcome of historical change but rather as a cyclical dynamic alterable through technological modifications rather than by political contestation.

In deploying these metaphors, there is a risk that cities are imagined to be either healthy or unhealthy, in or out of equilibrium, and that the health and/or equilibrium of the city can be improved by the judicious application of new informatics technologies. Unlike 1950s planner Robert Moses, who imagined himself to have taken a ‘meat-axe’ to the city in order to restore it to health, some contemporary planners using urban informatics imagine themselves more as micro-surgeons, able to see the circulatory systems of the city in much finer detail and thereby able to operate on those systems with much greater precision. And if planners see themselves in this way, how will they respond when privacy protections and expectations prevent them from seeing things in the desired degree of detail? Will privacy be ‘devoured’ in the interests of society, as Arendt feared?

Of course, not all urban informatics applications are being developed from the ‘top-down’ [1]. Some ‘bottom-up’ developments seek to give citizens more and better information in order to enable them to make more informed decisions and contributions to their cities [eg, 33, 34]. But the active participation of citizens in the gathering and analysis of digital data about their own activities and the cities they inhabit does not necessarily signal the emergence of a *politics* which might subject different configurations of privacy to democratic

legitimation (even if the emergence of a politics of urban informatics will require the active participation of citizens) [31]. Rather, such participation may well be bound up with projects of social control through self-regulation which are a characteristic feature of neo-liberal cities [35].

How, then, might the ‘public interest’ served by urban informatics be made more political, in order to open up the question of what kind of privacy matters in what kinds of situations to more democratic legitimation? This will require some re-framing of the ‘problems’ to be solved by informatics systems [36]. The aim should not only be establishing more ‘effective’ and ‘efficient’ systems and processes, but also enhancing the *equality* of urban inhabitants. For as Rancière argues, to pose the question of equality is precisely to open a space for the political, because it draws attention to the part of those who have no part in a given polity: “politics ... is that activity which turns on equality as its principle” [37: p. ix].

It is worth noting here that a focus on equality will not always mean *protecting* particular norms and configurations of privacy. In some contexts, equality might be served by critical *deconstructions* of privacy, while in others it might involve struggles to protect or establish particular kinds of privacy rights. The history of feminist struggles for equality illustrates this point. Carole Pateman observed some years ago that:

The dichotomy between the public and the private is central to almost two centuries of feminist writing and political struggle; it is, ultimately, what the feminist movement is about [38: p. 281]

A key element of feminist politics has been a contention that matters concerning family, gender and sexuality are not properly private, but rather are matters of public interest and politics because they involve relations of power and inequality. And yet, the right of women to make reproductive choices (including abortion) has been pursued as a right to privacy. Here, feminist politics has not involved a wholesale attack or embrace of privacy *per se* – rather, it has involved an attempt to redraw the line between public and private, to construct new configurations of publicness and privacy that address structural gender inequality [38].

V. ENACTING A POLITICS OF URBAN INFORMATICS

If Arendt is right to claim that both the public and the private seem to disappear at once, then the converse may also be true. In other words, the best way to identify and address the two kinds of privacy issues associated with urban informatics discussed above is to make the development and application of those technologies *more public*. The analysis above suggests that this publicness will have two related dimensions.

First, making urban informatics technologies more public will entail making the technologies themselves more highly visible to an audience of urban citizens, so that these citizens are in a position to make informed calculations about the different kinds of audience to which their actions/identities are exposed in different contexts. System and regulatory designs need to be informed by considerations not only of what they expose and protect, but *how the systems and regulations themselves are exposed and protected* [21].

Second, this politics of visibility is intimately bound to the politics of equality in the city. The merits of different configurations of privacy ought to be judged with reference to an open political debate about the public interest. The visibilities and exposures of personal electronic data collected through urban informatics should not be determined with reference to the needs of 'the city', where the city is understood as though it is a natural organism or system with one opinion and one interest. Rather, the public interest served by different configurations of privacy should be guided by the political question of how to address inequality in the city.

Now, I am acutely aware that these two suggestions may seem particularly vague to those charged with the important task of designing information systems and privacy regulations. However, part of my point has been to argue that there is no universally shared concept of 'privacy' awaiting technical specification and implementation in system and regulatory design. Rather, a concern with privacy suggests a concern with addressing a set of privacy-related *questions* across different contexts. As such, I am suggesting that these questions of visibility and equality become design imperatives in their own right, precisely because they open up a politics of privacy.

And while we urgently need answers to these questions, we must also realize that these answers can never be final. As designers put concrete proposals on the table, they might be framed as simultaneously offering *solutions* to the political questions of privacy and also *enacting* that very political debate which is so crucial to privacy protection. Such proposals may be generated as reasoned but tentative and contestable answers to the question: what is equality?

VI. REFERENCES

- [1] A. Townsend, "Foreword," in *Handbook of Research on Urban Informatics: The Practice and Promise of the Real-time City*, M. Foth, Ed. New York: Information Science Reference, 2008, pp. xxiii-xxvii.
- [2] F. S. Chapin, *Human Activity Patterns in the City: Things People Do in Time and Space*. New York: Wiley, 1974.
- [3] M. Foth, "Preface," in *Handbook of Research on Urban Informatics: The Practice and Promise of the Real-time City*, M. Foth, Ed. New York: Information Science Reference, 2008, pp. xxviii-xxxi.
- [4] W. Mitchell, *Placing Words: Symbols, Space, and the City*. Cambridge: MIT Press, 2005.
- [5] A. Madanipour, *Public and Private Spaces of the City*. London and New York: Routledge, 2003.
- [6] R. Whitaker, *The End of Privacy: How Total Surveillance is Becoming a Reality*. New York: New Press, 1999.
- [7] M. Kohn, *Brave New Neighborhoods: the Privatization of Public Space*. New York: Routledge, 2004.
- [8] D. J. Solove, *Understanding Privacy*. Cambridge: Harvard University Press, 2008.
- [9] B. Robbins, "Introduction: The Public as Phantom," in *The Phantom Public Sphere*, B. Robbins, Ed. Minneapolis: University of Minnesota Press, 1993.
- [10] K. Iveson, *Publics and the City*. Oxford: Blackwell, 2007.
- [11] R. Paddison and J. Sharp, "Questioning the end of public space: Reclaiming control of local banal spaces," *Scottish Geographical Journal*, vol. 123, pp. 87-106, 2007.
- [12] M. Warner, *Publics and Counterpublics*. New York: Zone, 2002.
- [13] J. Weintraub, "The Theory and Politics of the Public/Private Distinction," in *Public and Private in Thought and Practice: Perspectives on a Grand Dichotomy*, J. Weintraub and K. Kumar, Eds. Chicago: University of Chicago Press, 1997.
- [14] S. I. Benn and G. F. Gaus, "The public and the private: concepts and action," in *Public and Private in Social Life*, S. I. Benn and G. F. Gaus, Eds. London and Canberra: Croom Helm, 1983.
- [15] M. Sheller and J. Urry, "Mobile Transformations of 'Public' and 'Private' Life," *Theory, Culture and Society*, vol. 20, pp. 107-125, 2003.
- [16] B. Colomina, *Privacy and publicity: modern architecture as mass media*. Cambridge (USA): MIT Press, 1996.
- [17] A. Greenfield, *Everyware: The dawning age of ubiquitous computing*. Berkeley: New Riders, 2006.
- [18] W. Sofsky, *Privacy: A Manifesto*. Princeton: Princeton University Press, 2008.
- [19] M. Kennedy, "Coy village tells Google Street View 'spy' to beat a retreat," *The Guardian*, pp. 21, 2009.
- [20] B. Thompson, "The death of privacy and why we should welcome it," *Presentation to Lift 09 Conference, Geneva*, 2009.
- [21] M. Crang and S. Graham, "Sentient Cities: ambient intelligence and the politics of urban space," *Information, Communication and Society*, vol. 10, pp. 789-817, 2007.
- [22] M. Hansen, A. Schwartz, and A. Cooper, "Privacy and Identity Management," *IEEE Security and Privacy*, vol. March/April, pp. 38-45, 2008.
- [23] S. Lederer, J. I. Hong, X. Jiang, A. K. Dey, J. A. Landay, J. Mankoff, *Towards Everyday Privacy for Ubiquitous Computing*, available at <http://www.eecs.berkeley.edu/Pubs/TechRpts/2003/CSD-03-1283.pdf>, 2002.
- [24] Surveillance Studies Network, *A Report on the Surveillance Society*, available at <http://www.surveillance-studies.net>, 2006.
- [25] L. Berlant and M. Warner, "Sex in Public," *Critical Inquiry*, vol. 24, pp. 547-566, 1998.
- [26] H. Arendt, *The Human Condition*. Chicago: University of Chicago Press, 1958.
- [27] J. Rancière, *Hatred of Democracy*. London: Verso, 2006.
- [28] S. Žižek, *The ticklist subject: the absent centre of political ontology*. London: Verso, 1999.
- [29] S. Bickford, "Constructing Inequality: City Spaces and the Architecture of Citizenship," *Political Theory*, vol. 28, pp. 355-376, 2000.
- [30] J. Cohen, "Democracy, Difference, and the Right to Privacy," in *Democracy and Difference*, S. Benhabib, Ed. Princeton: Princeton University Press, 1996.
- [31] A. Greenfield and M. Shepard, *Urban Computing and its Discontents*. New York: Architectural League of New York, 2007.
- [32] M. Gandy, "Urban Nature and the Ecological Imaginary," in *In the Nature of Cities: urban political ecology and the politics of urban metabolism*, N. Heynen, M. Kaika and E. Swyngedouw, Eds. New York: Routledge, 2006, pp. 63-74.
- [33] F. Calabrese, K. Koeckl, and C. Ratti, "WikiCity: Real-Time Location-Sensitive Tools for the City," in *Handbook of Research on Urban Informatics: The Practice and Promise of the Real-time City*, M. Foth, Ed. New York: Information Science Research, 2008, pp. 390-413.
- [34] E. Paulos, R. J. Honicky, and B. Hooker, "Citizen Science: Enabling Participatory Urbanism," in *Handbook of Research on Urban Informatics: The Practice and Promise of the Real-time City*, M. Foth, Ed. New York: Information Science Research, 2008.
- [35] N. Rose, "Government and control," *British Journal of Criminology*, vol. 40, pp. 321-339, 2000.
- [36] A. Williams, E. Robles, and P. Dourish, "Urbane-ing the City: Examining and Refining the Assumptions Behind Urban Informatics," in *Handbook of Research on Urban Informatics: The Practice and Promise of the Real-time City*, M. Foth, Ed. New York: Information Science Research, 2008, pp. 1-20.
- [37] J. Rancière, *Disagreement: politics and philosophy*. Minneapolis: University of Minnesota Press, 1999.
- [38] C. Pateman, "Feminist Critiques of the Public/Private Dichotomy," in *Public and Private in Social Life*, S. I. Benn and G. F. Gaus, Eds. London and Canberra: Croom Helm, 1983.