Article

Smartmentality: The Smart City as Disciplinary Strategy

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Abstract

The paper analyses the concept of the smart city in critical perspective, focusing on the power/knowledge implications for the contemporary city. On the one hand, smart city policies support new ways of imagining, organising and managing the city and its flows; on the other, they impress a new moral order on the city by introducing specific technical parameters in order to distinguish between the 'good' and 'bad' city. The smart city discourse may therefore be a powerful tool for the production of docile subjects and mechanisms of political legitimisation. The paper is largely based on theoretical reflections and uses smart city politics in Italy as a case study. The paper analyses how the smart city discourse proposed by the European Union has been reclassified to produce new visions of the 'good city' and the role of private actors and citizens in the management of urban development.

1. Introduction: The Smart City between Insurgence and Discipline

The expression 'smart city' has recently become a leitmotiv in discussions about the city and urban development models, both in Italy and other European countries. At the same time, as discussed in this paper, the smart city is currently an ambiguous concept. Echoing the work of Osborne and Rose (1999), the objective of this study is to investigate the mechanisms for the territorialisation of government triggered by the advent, in the landscape of urban policies, of visions of the 'smart city', intended chiefly as an efficient, technologically advanced, green and socially inclusive city. The research issue behind the article concerns the effects of the smart city discourse: among these many effects, is there a redefinition of the role and meaning of cities in order to justify hyper-technological rationalities and new geometries of power? In other words, the article analyses the possibility that the smart city discourse distances urban government from

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politics and represents the urban question in terms of the environment and technology, broadening the field of action of technicians, consultants and private companies. With this in mind, the paper discusses the risk that the smart city vision reduces political conflict, insurgence, radicalism and resistance in the contemporary city in favour of 'disciplined' cities, ready to be coupled with political-technological assemblages designed to naturalise and justify new assets for the circulation of capital and its rationalities within cities.

Although largely based on theoretical reflection, this article will also be corroborated by the analysis of the dissemination of the smart city concept in Italy, a country fully committed to smart urban policies. To this end, the paper will present a brief discussion regarding how the smart city concept has been transferred from the US to the EU, and from Brussels to Italy.

Concerning methodology, the paper is based on the analysis of recent policy documents and promotional materials related to the smart city produced by the European Union, the Italian government, several Italian municipalities and a number of public–private partnerships involved in the production of the smart city discourse.[1] The paper will also review social sciences literature about the smart city. In particular, 'grey' literature (conference presentations, on-line papers, research reports) is rather widespread and constitutes interesting research material. Finally, discussions have benefited from insight acquired by the author during recent participation in several meetings and roundtables on behalf of the Italian Ministry of Territorial Cohesion (January to June 2012).

The article does not intend to produce a radical critique of the smart city concept, denying *a priori* its utility. The author's perspective—throughout the article—is that the term smart city is basically an evocative slogan lacking a well defined conceptual core and, in this sense, proponents of

the smart city are allowed to use the term in ways that support their own agendas. With this in mind, assessment of the effects of smart city policies has to be contextualised and related to specific cases—in other words, each assessment will depend on how the smart city concept is actually assembled, developed, filled with meaning and implemented by policy-makers. The critique developed in this paper will analyse in what way the smart city strategy impresses new diagrams of government (Rose, 1999; Osborne and Rose, 1999) implying new discourses and new geometries of power. In this framework, the paper will briefly discuss issues concerning the risks of depoliticisation and naturalisation of concepts within urban policies, the changing role of cities in elaborating developmental and environmental issues, and the 'smart' reformulation of the concept of citizenship.

The article is divided into five sections. Section 2 will briefly present theoretical considerations about urban governmentality. Section 3 will introduce the smart city concept, its origins and operational strategies. Section 4 will analyse the production of the 'smart city' as a political entity and the mechanisms of discipline present in the Italian urban discourse. Finally, concluding remarks will discuss the results of the analysis and further conceptual problems.

2. Cities and Governmentalities

The analysis proposed here is based on theoretical and methodological considerations taken from critical urban studies and, in particular, the concept of governmentality. It is a well-known fact that critical analysis, especially since the 1990s, has been inspired by Michel Foucault's attempt to investigate the subsurface implicitly found in the most diverse forms of knowledge circulating in a society, be they moral discourses, practices,

policies, public opinions, conventional wisdoms or scientific knowledge, and where the boundaries between these different categories are often unstable (see, for example, Burchell et al., 1991; Rose, 1999; Crampton and Elden, 2007). The basic premise is that 'truth' is a historical and contingent product; in other words, specific historically and geographically variable cultural systems make it possible to distinguish between true and false, appropriate and inappropriate. Specifically, Osborne and Rose (1999) mapped several ways in which the city has been a core element of the government of human existence, human conduct, human subjectivity and, more generally, human life.

The concept of governmentality refers, in this framework,[2] to the practices of subsumption of knowledge in the mechanisms of government, in the practices of 'the conduct of conduct', in the production of police systems (broadly understood as discipline systems) and in the cultural mechanisms that allocate specific identities to the ruler and the ruled (Rose, 1999). Power is not only the product of active agents applying force and sovereignty to the bodies of the subjected (as it basically was up to the 18th century), but rather the product of discursive tactics of professionals who use scientific surveillance techniques to normalise social behaviour. Governmentality involves the way in which subjects perceive themselves and form their identities through processes of government which control, incite or suppress actions by drawing a line between what is 'acceptable' and what is 'unacceptable'.

The concept of governamentality has been applied in a number of fields in the social sciences in order to unravel various mechanisms of 'the conduct of conduct'. For example, within the debate on 'new public health', several authors have discussed how citizens are increasingly considered as responsible for their own health, which is supposed to be potentially safeguarded through adhesion to specific 'lifestyles' (Peterson and Lupton, 1996). This is the case of the obesity discourse, where fat is stigmatised as a health problem and form of deviance—for example, in terms of lack of self-control—to be tackled with individual efforts and discipline (Rich et al., 2011).

Based on a similar theoretical perspective, a well-known branch of urban studies has shown that, in the political/cultural framework of advanced liberalism, cities have been gradually imagined and reclassified as 'engines of development' and as actors 'responsible' for their own development (Rose, 1999; Raco and Imrie, 2000), to be achieved through 'regeneration' and 'entrepreneurial' actions aimed at creating attractive urban landscapes for the circuits of capital—for example, through tax incentives or urban branding (see classic contributions by Harvey, 1989a; Hall and Hubbard, 1998). With regard to governmentality, it is therefore possible to practise an 'archaeology' of the tools (cultural systems, ideologies, ideas, strategies) used to frame urban development, tools that have evolved over time as a result of reinventions and negotiations by economic, political and social actors. In the past two decades, this kind of archaeology includes imaginaries of the post-Fordist city, the global city, the cultural city and the creative city (see, for example, Short and Kim, 1999; Cochrane, 2007; Mah, 2012).

The smart city discourse is ideally placed in the most recent phase of this 'history of urban imaginaries', a phase that can be situated in the wake of the narratives of the sustainable city (or, more recently, resilient cities; see Newman et al., 2009) and of the informational/intelligent city. Both the imaginaries of the green/sustainable city and the technological/informational city have been, and still are, powerful devices to

activate and rethink specific rationalities in order to justify political choices and trigger new economic paradigms—in other words, accumulation regimes that generate new businesses and possible capital accumulation (see Harvey, 1989b), as analysed, for example, in recent literature on eco-state restructuring (While *et al.*, 2010; Jonas *et al.*, 2011; Weller, 2012). In particular, production of the 'sustainable city' subject is culturally and politically linked to the tension between various forces such as: institutional reorganisation of territorial structures, governmental powers, and regulatory mechanisms with a view to reduce environmental impact; claims of environmental justice by social movements, citizens' associations and other grassroots social forces, as well as the revived 'environmental awareness' of citizens-consumers; and, appropriation of the environmental discourse by firms and economic actors willing to employ the rhetoric of sustainability to reframe or justify their activities. Analysis of the mechanisms of production of sustainable urban conduct therefore involves the different geometries of power and social positionalities of the various actors and rationalities involved, assembled in different configurations in different places, since the way in which the city is imagined as an agent of sustainability is likely to be different, for example, in Copenhagen or Buenos Aires (see Gibbs and Krueger, 2012). At the same time, recent literature on urban policy transfer emphasises how policy solutions increasingly tend to circulate, migrate and mutate on an international scale and with growing speed (see Cook and Ward, 2011; McCann, 2011; Peck, 2011); this will be discussed in the next section analysing the mobility of the concept of the smart city.

In the following pages, the intellectual 'smart city' device will be placed in this analytical framework. It is useful to clarify that 'smart city' has been conceptualised in the urban political discourse in at least two, partially overlapping, ways.

On the one hand, the 'smart city' may be intended as a goal for urban development projects. With regard thereto, urban analysts estimate and measure how 'smart' cities are—i.e. how 'good', 'healthy' and 'technologically advanced' they are in specific fields. The dissemination of urban benchmarking techniques is part of this framework.

On the other hand, the 'smart city' discourse may be used by urban managers and political and economic urban elites to support specific development policies. There are many links between neoliberal urban development policies and smart city imaginary: the construction of a clean, green and intelligent city image is in fact useful to attract investments, leading sector professional workers and tourists (Brand, 2007; Jonas and While, 2007; Hollands, 2008).

The paper will remark on both aspects of the smart city discourse, but will focus mainly on the former. At present, transfer of the smart city concept to the field of urban development policies is just beginning, at least in Italy, to make it difficult to produce a comprehensive analysis. As a result, the paper focuses on the production of the smart city discourse and on the power/knowledge implications for cities. The paper assumes that catchy urban imaginaries of 'the smart city' deeply influence urban policies, but never analyses this relation in depth. Instead, it analyses the rationality and governmentality of urban smartness.

3. Smart City: Origins and Mobility of Urban Imaginary

As mentioned earlier, the smart city is currently a generic and optimistic concept for the city of the future and, in fact, no suitably widespread definition has yet been

elaborated, as emphasised by Hollands (2008) in his critique of the concept. In the literature, the most reliable source of a definition of smart city is usually considered the research paper by a group of researchers based in Vienna, Ljubljana and Delft (Giffinger *et al.*, 2007) entitled *Smart cities: ranking of European medium-sized cities*. Apart from benchmarking 70 European cities, the research paper has a specific section entitled "Defining smart city". After confirming that no agreed definition exists and affirming the need for a holistic perspective, this explains the term smart city by distinguishing six conceptually distinct characteristics

— *Smart economy*: an aspect which the authors link to a spirit of innovation, entrepreneurialism, flexibility of the labour market, integration in the international market and the ability to transform.
— *Smart mobility*: referred to local and supra-local accessibility, availability of ICTs, modern, sustainable and safe transport systems.
— *Smart governance*: related to participation in decision-making processes, transparency of governance systems, availability of public services and quality of political strategies.
— *Smart environment*: understood in terms of attractiveness of natural conditions, lack of pollution and sustainable management of resources.
— *Smart living*: involving the quality of life, imagined and measured in terms of availability of cultural and educational services, tourist attractions, social cohesion, healthy environment, personal safety and housing.
— *Smart people:* linked to the level of qualification of human and social capital, flexibility, creativity, tolerance, cosmopolitanism and participation in public life.

This classification of the six characteristics of urban smartness is present in most literature about the smart city;[3] for example, in Caragliu *et al.* (2011) and Lombardi *et al* (2012). The report *Smart cities in Italy* by the AAB-The European House-Ambrosetti group, for example, explicitly states that

> The main definition of smart city that seems to have driven a change in perspective is due to the Vienna University of Technology in collaboration with the University of Ljubljana and the Delft University of Technology: six axes along which it is possible to assess the degree of smartness of 70 medium-sized European cities (AAB-The European House-Ambrosetti, 2012, p. 70; author's translation).

The division into six characteristics probably contains a certain amount of conventional wisdom and runs the risk of naturalising and depoliticising political choices: for example, flexibility of the labour market is not assumed as an option, but as a goal of a smart economy together with conventional keywords such as 'social cohesion' and 'participation'. Instead, it is useful here to conceive the smart city discourse as the assemblage of several pre-existing urban imaginaries.

On the one hand, smart city is indebted to policies and planning ideas migrating from America, in particular the concept of Smart Growth developed within the framework of New Urbanism which originated in the United States in the 1980s and later moved to Europe (Falconer Al Hindi and Till, 2001; Hollands, 2008). In a nutshell, New Urbanism in planning was aimed at improving the urban environment and the quality of life in cities by promoting communitarian ideas and limiting urban sprawl, land consumption and the proliferation of forms of development inspired by the logic of the automobile and personal mobility. One of the major intellectual results of New

Urbanism is precisely the idea of Smart Growth, a planning strategy aimed at making cities more compact, less greedy and less soil-consuming. Furthermore, Smart Growth was a political idea of grass-roots movements, especially in urban social movements in the 1990s (Beatley and Collins, 2000).

On the other hand, the adjective 'smart' is indebted to the concept of the 'intelligent city' (Castells and Hall, 1994; Komninos, 2002; Hollands, 2008), mainly involving the relationship between urban space and technology and including issues such as the ability to generate innovation, transition towards forms of e-governance, social learning, and the possibility to provide ICT infrastructures. Singapore has probably been the city that identified most with the imaginary of the intelligent city; in fact, it funded huge computing infrastructure projects destined to both businesses and citizens as part of its branding as an 'intelligent island' (Arun and Yap, 2000; Olds and Yeung, 2004). However, many more cities around the world have integrated the vision of the ICT city into their development strategies.

Without going into the details of the imaginaries of the 'intelligent city' and 'smart growth', it is reasonable to imagine that the smart city concept stems from the overlapping and assembly of these two concepts (Hollands, 2008; McFarlane, 2011; Allwinkle and Cruickshank, 2011) and, not surprisingly, the expression 'smart city' has been literally used in some old publications in the framework of the two discourses (for example, Arun, 1999, about the 'smart' intelligent island of Singapore; see also Brooker, 2012). The observation that ICT solutions can facilitate urban growth and urban restructuring was also promptly seized on by a number of large multinational companies which have significantly contributed to the production and circulation of the smart city discourse (see Graham and Marvin, 2001).

Cisco, for example, began to adopt the smart city concept in the late 1990s, so much so that it tried to sponsor a public–private partnership project to build an ICT infrastructure in Milan. Moreover, IBM is now a major player in the development of smart city projects, mainly involving data collection systems and public administration management: the company has already started partnerships with cities like New York, Chicago and Madrid in order to work in the fields of urban safety management, healthcare and energy distribution; in Italy, IBM has signed an agreement with the city of Genoa to develop 'a new smart city model'.[4]

It is mainly in Europe, and only recently, that the concept of smartness has become extremely popular, especially after the expression 'smart city' became part of the complex mechanisms of EU research funding. The Seventh Framework Programme for Research and Technological Development—i.e. the main engine for research funding in EU countries, such as Italy, where national research funding is quite low (1.1 per cent of GDP in 2011)—introduces smart cities in Line 5, Energy Policy. More specifically, the Framework Programme provides financial support to facilitate the implementation of a Strategic Energy Technology plan (SET-Plan) which provides several funding schemes related to an initiative called 'Smart cities and communities'. The goals of the initiative include a 40 per cent reduction in greenhouse gas emissions by 2020 through improvement in the energy efficiency of buildings, energy distribution networks and transport systems. Furthermore, the Smart Cities and Communities European Innovation Partnership[5] was launched on 10 July 2012; the initiative intends to

catalyse progress in areas where energy production, distribution and use; mobility and

transport; and information and communication technologies (ICT) are intimately linked and offer new interdisciplinary opportunities to improve services while reducing energy and resource consumption and greenhouse gas (GHG) and other polluting emissions (p. 2)

Without going into the complex organisation and ramification of European projects supporting research and innovation, it is clear that abundant resources—i.e. several billion euros—have been allocated in the pursuit of energy and technology-efficient cities. Such a vast deployment of resources, at a time of widespread crisis in urban economies, has a fallout effect on the strategies of European countries. In 2012, the Italian government introduced an important programme to fund smart city and social innovation projects, first reserved only for southern Italian cities, and then the entire country.[6] In particular, the funding programme defines 16 thematic areas, including a wide variety of issues, from general social concerns such as safety (theme 1), justice (theme 5) and education (theme 6), to specific topics such as last-mile logistics (theme 11), cloud computing technology (theme 16) and house automation (theme 4). Conferences and meetings devoted to smart cities have begun to be organised and attract the attention of urban administrators, private companies and the media, thereby further contributing to disseminating the smart city vision and rhetoric across the country.

4. The Production of Smartmentalities

In recent months, smart city discourses in Italy—under pressure to obtain European funding and become involved in the marketing campaigns of private companies— sustain the construction of a new urban identity, functioning as a discipline mechanism that can be defined as a 'smartmentality'. Cities are made responsible for the achievement of smartness—i.e. adherence to the specific model of a technologically advanced, green and economically attractive city, while 'diverse' cities, those following different development paths, are implicitly reframed as smart-deviant.

This section of the paper will focus on three mechanisms governing the functioning of this smartmentality device: the role of computing practices in the production of urban charts and smart city benchmarking analysis; the discourse on public–private partnerships in the production and management of smart cities; and the responsibilisation of cities in relation to environmental protection, technological development and quality of life.

4.1 Urban Charts and Benchmarking Analysis

The smart city discourse helps to naturalise the concept of the city as a collective actor: cities are represented as single, homogeneous and unitary actors who win or lose the challenge of the smart city. This logic specifically takes shape through the use of classification techniques, also called benchmarking or rating analysis. The quantitative comparison—in terms of urban smartness—between different cities has been developed, for example, in the aforementioned report *Smart cities. Ranking of European medium-sized cities* (Giffinger *et al.*, 2007) and, in Italy, in two recent ranking studies entitled *iCity Rate* (Forum PA, 2012) and *Città e infrastrutture per la crescita* (Cittalia and Siemens, 2012). In all these cases, the use of a set of multiple statistical indicators has reduced the smart urban development issue to a single number which can be arranged in a linear manner— for example, by establishing the relative

position of the city of Bari (69th, in the *iCity Rate*) compared with that of Pisa (10th). Although the analysis of indicators measuring the performances of cities may undoubtedly be a useful exercise for both social scientists and policy-makers, creating charts introduces two relevant elements of governmentality. First, the creation of a ranking; by assigning a different position to each city, this transforms the specificities of the multiple urban dynamics in assessable and enumerable units which as a result operate as a computing technology assembling different kinds of data (mainly technical) in order to produce new and specific ways to organise problems and prefigure solutions (see Bruno, 2009; Fougner, 2008; Ilcan and Phillips, 2010). For example, the fact that in the *iCity Rate* rankings of southern Italian cities are at the bottom of the chart reframes the traditional socioeconomic problems of those cities, such as Bari and Naples, in a new discourse and in a new regulatory space involving their 'delay' in pursuing the smart city model and implicitly suggesting they become more 'similar' to northern cities like Bologna or Milan. As stated at the beginning of the *iCity Rate* ranking report (Forum PA, 2012, p. 4; author's translation), "this is not a final chart, but a starting grid for a race yet to be run". In this regard, the ranking takes on the role of a 'performance technology' by which urban spaces are standardised and governed. Furthermore, many southern Italian cities face much more traditional urban problems, such as the lack of public services or massive degradation of the historical built environment in the city centre and the ensuing need for massive physical improvement; however, they are repositioning their problems according to the smart city discourse, and consequently cities are reorganising their agendas. Of course, it is impossible to assess immediately the effects of such a reorganisation, but the key issue

here is the way in which problems and solutions are designed, and appropriate and inappropriate actions identified: the language of technical standards, targets and best practices helps to hide the power relations which inevitably lurk behind every process of knowledge production. In addition, choosing classification indicators may be a very subtle disciplining technique: for example, measuring the performance of cities by attributing a higher score to urban settings which attract higher private investments imposes a certain approach towards distinguishing between what is desirable and what is not. In fact, urban scholars are well aware that merely attracting capital is not necessarily a good thing, because it will depend on how the capital is used in urban space; in the benchmarking discourse, this problem is less important and one-dimensional—in other words, it involves simple dichotomous categories like 'good' and 'bad'. And it is no accident that charts are a favourite with politicians, since their simple schematics and apparent objectivity can be used to justify different political rationales. An analogous point has been just emphasised in the literature criticising the oversimplified creative policies triggered by Richard Florida's urban charts (Florida, 2002), as well as the fact that it is common for cities to evaluate the effectiveness of their creativity strategies according to their shifting position in Florida's league tables (see Peck, 2005). It is therefore meaningful to find the following slogan concerning smart cities on the IBM website: "moving beyond policy-based decisions to reshape cities with insights gained from data".[7]

4.2 Merging Public and Private in the Pursuit of the Smart City

The smart city discourse is opening up new horizons in the problematic relationship between the public and private sectors in the

management of cities (see Deakin and Al Waer, 2011). In many Italian cities, such as Turin (Fondazione Torino Smart City), Genoa (Associazione Genova Smart City), Milan (Agenzia Smart Milano), Naples (Associazione Napoli Smart City) and Bari (Associazione Bari Smart City), new 'smart city' associations and foundations have been created by emerging coalitions of public and private actors with common objectives; quite often these coalitions, which are not democratically elected, focus explicitly on investments. Consider, for example, the newspaper headline "Genoa scoops up European funds".[8] The article waxes lyrical about how the city of Genoa is 'virtuous' and as a result was 'selected' as one of the three EU smart cities amongst those which participated in the tender. However, taking a closer look, it is obvious that funding was not 'won' only by the Municipality, but by a partnership with massive involvement by private supralocal actors, including ENEL, an Italian energy giant. Another example is the recently developed Milan Smart City strategy which includes strong participation by the aforementioned Cisco; last but not least, it is very common to find newspaper headlines such as "Siemens: ready to co-operate in Turin Smart City".[9] Indeed, the media seem to praise public–private part-nerships as an asset in themselves; just look at the headline: "Smart city, Italy is lagging behind. In Europe the public–private mix works right now".[10] The purpose of these considerations is not to support an *a priori* critical vision of the role of the private sector in the management of urban development, but to analyse the prejudices and power rela-tions behind the construction of a smart city rationale. In this regard, it is clear that, if private capital is necessary, this does not necessarily mean it is a good thing, or that rules are not needed to prevent the many problematic aspects of the public–private partnership, including the risk that private

requests dominate the arena and public sec-tors are merely co-opted in a marginal posi-tion, or the risk that the public sector simply subsidises the private. Also, as discussed by Graham and Marvin (2001), the provision of technological infrastructures by private actors pursuing profit may enhance urban fragmentation, as in many cases it has led to functional separation between sealed-off technological enclaves and leftover margina-lised spaces (see also Minton, 2009).

If, on the one hand, the construction of smart cities is presented mainly as a techno-logical question based on technical para-meters that most people do not understand, and, on the other, most of these technical issues are controlled by private companies, obviously it is important that there be mechanisms for the democratic and politi-cal control of inhabitants in smart cities. In fact, the construction of the cities of tomor-row runs the risk of becoming a technologi-cal issue which will have serious effects on the framing and search for solutions to urban problems.

First of all, if we adopt the perspective developed by Swyngedouw (2007), under the heading smart city discourse, urban issues run the risk of shifting more and more towards the field of post-politics: the smart city may increasingly become a gen-eric and easily agreed target, without proper critical discussions and without 'politics', intended as the clash and debate between different ideas and positions (Catney and Doyle, 2011). The danger behind this view is that urban development policies be based on a single model, applicable everywhere and linked only to the application of tech-nological solutions: it is no coincidence that cities at the bottom of the aforementioned charts are described as 'lagging behind', implicitly suggesting the inevitability of a linear path of development and the need for some kinds of modernisation policies to be applied everywhere with limited local

adaptation (McCann, 2011).[11] Further-more, the smart city vision is superimposed on a widespread reconfiguration of private subjects portraying technologies as 'heroes': the private companies investing in smart city projects adhere to a new 'spirit of capit-alism' that increase their soft power, prestige and the social justifiability of their busi-nesses (see Boltanski and Chiapello, 1999; Thrift, 2005) and it is no coincidence that the word 'smart' abounds in the advertising material of private companies. Italy, for example, has the second-highest number of passengers in cars in the world (596 cars per 1000 inhabitants in 2009; the first country is Iceland)[12] and is an important market in the eyes of car manufacturers. Moreover, it is a highly saturated market and eco-restructur-ing presents highly profitable possibilities for car manufacturers: in recent years, the Italian government financed generous eco-nomic incentives to encourage replacement of old cars in favour of new, more energy-efficient vehicles. It is therefore not surpris-ing that several car manufacturers have recently used the smart city rhetoric to rede-fine their role as agents in the search for non-polluting private mobility, in particular by producing electric cars; for example, the following statement appears on the website of the Smart City Exhibition 2013 to be held in Bologna

> At the end of 2011, with the market launch of Ampera, the first, extreme self-sufficient electric car, Opel … emphasises its role as innovator in the field of advanced mobility solutions.[13]

Of course, technologies are social constructs with a range of positive or negative effects on human life. However, after years of dys-topian visions of the technological future (see Thrift, 1996; Kaika and Swyngedouw, 2000), there seems to be an on-going attempt to overcelebrate the social and environmental opportunities offered by technology. On the one hand, the idea that 'technologies will save us' guards technolo-gical-related activities against criticism; on the other, it boosts the idea that technologi-cal networks and governmental practices will automatically guarantee better cities, regardless, for example, of the development trajectories of local societies, the nature of technological developments, the difficulty of reducing the chaos and complexity of ecosystems to a handful of statistics and indicators which have to be fully monitored and controlled,[14] and the need for debates, rules and forms of control in order to achieve virtuous coupling between technol-ogy and society (Hjerpe and Linnér, 2009). It is perhaps a coincidence, but most of the visual representations of a smart city (easy to find on the web) present stereotypical images of cities with plenty of hi-tech sym-bols, but without any visible human pres-ence. Smart city aesthetics seem to support a political unconsciousness that relegates social importance to the invisible periphery of a technological discourse, despite the fact that most European funding schemes expli-citly talk about 'communities'. Moreover, a brilliant example of the non-critical praise of hi-tech is present in certain ideas about 'sustainable districts' in which human com-munities live in futuristic micro environ-ments ideally living a 'zero impact' life; clearly, these interesting experiments are unsustainable for the 7 billion people who inhabit the planet today (Davis, 2010). An even more problematic example could be the new smart city experiments completely created, developed and managed by private actors: for example, Songdo near Seoul, one of the most expensive real estate projects in the world, sponsored by Gale International and Morgan Stanley Real Estate, or the smart city of Kochi, in Kerala (India), spon-sored by DIC (Dubai Internet City), a proj-ect that has already sparked local resistance

movements. In these cases, the ideal smart city becomes a 'privatopia' (metaphor coined by McKenzie, 1996), raising serious questions about the balance between public and private powers.

4.3 The Responsibilisation of the City and the Smart Citizen

The smart city discourse produces a new responsibilisation of the city as concerns environmental protection, technological upgrading and quality of life. In particular, the environmental problem is reclassified as an urban problem: this is certainly logical to some degree, but it is not that obvious when you consider that almost half the world's population lives in non-urban settings. Moreover, cities are imagined as morally responsible entities vis-a-vis environmental concerns (see Raco and Imrie, 2000; Laurie, 2006; Brand, 2007). Although dealing with these problems within this urban framework can certainly offer original insights (How can we design better cities? What kind of smart city do we want to live in?), it masks other perspectives (such as the possibility to rethink the capitalist system in entirely different ways, or invent solutions to the crisis of effective citizenship). In Italy, where the national system is clearly going through an economic crisis, one of the perverse effects of the smart city discourse is fierce, cut-throat competition, not in terms of creative solutions to people's problems, but in trying to obtain national and European funding, in other words, how to create the best conditions so that private companies can participate in smart city projects. Furthermore, this is the way in which academic research funds have been regulated, because funds are increasingly related to smart city projects.

Secondly, producing 'smart cities' inevitably also co-produces what we could call a 'smart citizen'. In fact, the smart city discourse means that people have to be willing to adapt to, and to live in, smart cities. It is hardly necessary to point out that there is little room for the technologically illiterate, the poor and, in general, those who are marginalised from the smart city discourse; moreover, citizens are considered responsible for their own ability to adapt to these on-going changes. In Italy, at least, it is quite clear that the smart city discourse never touches on 'hot' issues such as the crisis of the welfare system. Also, the smart city discourse has an effect on the way citizens are supposed to behave. On the one hand, citizens are very subtly asked to participate in the construction of smart cities, on the other, they are implicitly considered responsible for this objective. This means that the citizen is re-subjectified in the form of an active citizen required to achieve his goals (Marinetto, 2003; Brand, 2007; Summerville et al., 2008; Paterson and Stripple, 2010). In the smart city discourse implemented by local public–private partnerships, it is easy to find the following statements[15]

> The primary goal of the Bari Smart City is to inform, involve and mobilise the community, residents, associations and public and private organisations, in order to develop an effective action plan in co-operation with the European Commission.

> Follow our tips to get SMART. Reducing energy consumption in the home and the workplace benefits the environment and your wallet.

> To build a smart city, we need citizens capable of inventing a new world.

In other words, citizens and local communities are invested with a moral obligation to behave in a certain way and adhere to the collective project of building smart cities; in this regard, the production of 'smart citizens' can be seen as an instrument of

'government at a distance'. One example could be the pressure towards a sort of smart self-care that includes the opportunity for life-long technological learning. Another example may be the manipulation of lifestyles towards green consumption and ecological tourism.[16] Smartness is becoming a field of social control that makes intrusion in a person's private life quite natural; as a result, we need to pay attention to the goals established in the framework and the label given to smart city projects.

5. Concluding Remarks

The smart city vision has been forcefully introduced into urban policies in Italy. This paper contributes to the urban studies literature by critically analysing the political concept of the smart city and providing a case study concerning urban governamentalities. As discussed in the paper, the smart city is an example of a 'political assemblage' (McFarlane, 2011) involving the mobility of policy ideas in global circuits of knowledge (Cook and Ward, 2011; McCann, 2011; Peck, 2011). The smart city is an urban imaginary combining the concept of 'green cities' with technological futurism and giving a name to techno-centric visions of the city of tomorrow. At the same time, smart city is a framework for policies supporting technological and ecological urban transitions, a political technology that is currently spreading across Europe and fertilising national and local political agendas.

The reasons why the smart city is so popular in Europe are based mainly on a mix of various forces, including: the availability of substantial European financial resources to fund the eco-restructuring of cities; the tendency of large private companies to invest in urban digitisation projects; the construction of a powerful rhetoric including salvation visions of technology; and the image of

clean, liveable, technologically advanced cities far removed from the economic crisis. The reasoning developed in the paper is that the smart city discourse inevitably involves a new geometry of power relations requiring the production and circulation of knowledge, rationalities, subjectivities and moralities suited to the management of the smart city project. The discourse on the city as the protagonist of social, technological and environmental development (rather than the state or global society, as in most previous discourses), the construction of a system to measure the performances of the cities, the promotion of new public–private partnerships and the empowerment of local communities and citizens, are all aspects of 'technologies of government at a distance' or 'smartmentalisation'. It is helpful to point out that there are two dangers inherent in this process.

The first is that, together with the ideal-type of the smart city, specific objectives, strategies, ideologies and political choices may be presented as 'natural' and 'univocal' approaches. Like any other urban development issue, the smart city will trigger restructuring which in turn will produce subjects that are either included or excluded, visible or invisible, people who will benefit, and people marginalised from the circuits of power (Hollands, 2008). At present in Italy it is clear that the rhetoric of smartness runs the risk of building an *a priori* non-critical consensus, as discussed in the paper, due to the lack of critical opponents and the many enthusiastic and celebratory images of the smart city strategy illustrated by the media.

The second danger is that urban visioning is increasingly reduced to a single technology-centric vision of the city of the future, and that this will somehow restrict the horizon of any possible imaginative planning approaches, as well as limit the creation of alternative solutions to the problems of today and tomorrow (regarding the

possibilities of imagination and utopia, see Harvey, 2000; Davis, 2010).

This is why stimulating research and critical debates about the smart city is so important. There is obviously a need— in Italy and in the rest of the world—for studies and considerations regarding: the politics engendered by smart city projects; the geometries of power triggered by strategies; the relationships between the city and technology; the role played by different fields of knowledge in shaping the city of the future; and, finally, the need to bring the smart city into the political arena in order to spark a serious debate about the kind of smart city we want to live in.

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Notes

1. Specifically, concerning the European Union, documents in the Setis (http://setis.ec.europa.eu) and Energy directorate (http://ec.europa.eu/energy) websites have been reviewed. In the case of Italian government policies, the two normative references are PON Research and Competitiveness 2007–2013 by the MIUR and Directorial Decree 5 July 2012 no. 391/Ric. Concerning the urban scale, documents from the official websites of municipal councils and smart city foundations/associations have been analysed in the cases of Turin, Milan, Genoa, Trento, Venice, Bologna, Rome, Naples, Bari and Palermo. Materials from the 2012 Bologna Smart City exposition, a fair involving urban administrators and companies, have also been analysed. Finally, a sample of 48 Italian newspaper articles has been collected and analysed.

2. It is, in fact, only one of the many meanings of governmentality outlined by the philosopher and by the scientific debate (see Burchell et al., 1991).

3. A simple search on Google Scholar (accessed November 2012) will come up with 35 citations, a very large number given the limited literature on the subject. Most of the references concern 'grey' literature (mostly papers presented at conferences).

4. See the IBM Italia website: www-03.ibm.com/press/it/it/pressrelease/33631.wss (accessed November 2012).

5. Communication from the Commission "Smart Cities and Communities— European Innovation Partnership", COM (2012)4701; http://ec.europa.eu/energy/technology/ initiatives/smart_cities_en.htm

6. Respectively PON Research and Competitiveness 2007–2013 MIUR and Directorial Decree 5 July 2012 no. 391/Ric. The Italian Digital Agenda initiative—DL 18 October 2012, no. 179—should also be mentioned: it mainly supports the diffusion of ICT in public administrations, without specific reference to the urban scale.

7. See: www.ibm.com/smarterplanet/us/en/smarter_cities/overview/index.html.

8. *Il Sole 24 Ore*, 3 April 2012. As for all the other quotations from Italian newspapers presented in the article, translation by the author.

9. See: www.ecodallecitta.it/notizie.php?id=105603 (accessed November 2012).

10. *La Repubblica*, 12 October 2012.

11. This perspective confuses the logical perspectives of geography, intended as the description of variety and co-presence of different evolutive trajectories, with those of history, a conceptual problem fully analysed by Massey (2005).

12. See: www.data.worldbank.org/indicator/IS.VEH. PCAR.P3 (accessed November 2012).

13. See: www.smartcityexhibition.it/espositori/general-motors/#/questions (accessed November 2012, author's translation).

14. In the words of Graham and Marvin (2001, p. 392), "The life of major cities cannot be simply programmed like some computer". See also Richard Sennett's newspaper article 'No one likes a city that's too smart', *The*

Guardian, 4 December 2012; (accessed December 2012).

15. Sources: www.barismartcity.it; www.torinosmart city.csi.it; www.genovasmartcity.it (all accessed November 2012, translation by the author).

16. For a critique of the government of lifestyles, linked in particular to the public health debate, see Petersen and Lupton (1996) and Rich *et al.*, (2011).

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