

## The Multidimensionality of Contemporary Urban Spaces – Implications for Design

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### 1 ABSTRACT

The paper is aimed at highlighting the spatial outcomes of structural changes occurred in world societies/economies, with the shift from the production of “tangible” to “intangible” goods, and the spread of the technical-economic information paradigm that is strictly connected to the globalisation process.

Such transformations seem to require an interpretative shift in the ways in which urban spaces are usually conceptualised and perceived. Moving from the more fruitful concept of multidimensionality of urban spaces, the paper suggests that (material) sites can be thought as the spatialisation of digital (immaterial) dynamics. Conceptualising urban public spaces along these lines creates both theoretical and operational openings that mean rethinking traditional approaches in designing public urban spaces.

### 2 TOWARDS NEW DESCRIPTIONS/INTERPRETATIONS (PROJECTS)

Since the early-Eighties, with the shift from a Fordist to a post-Fordist production (from “tangible” to “intangible” goods), we have witnessed a profound structural change of economies/societies. As it is well-known, this has meant market internationalisation, multi-nationalisation of productions, and increasing mobility of capitals, services and competences aimed at innovation. But, mostly, the techno-economic paradigm focused on information constitutes the main presupposition of such a relevant shift. In fact, even for the obvious «assonances» (Goodwin, 1984) with the results of scientific and technological evolution of the «network society» (Castells, 1996), during the Nineties a powerful network metaphor has become a «hegemonic image to which re-led the understanding/interpretation (planning) of contemporary complexity (city/territory/society)» (Scoppetta, 2009).

Effects of such shift on cities and metropolitan areas have been extensively studied, and they were often interpreted as the result of a particular issue related to globalisation, i.e. neo-liberal policies that were developed in order to support the wide reconversion process of economies/cities/territories/societies that started with the global crisis of the Seventies, when the new competitive scenario began to loom on the horizon.

Instead, what still remains too scarcely examined is the issue concerning the effects of digitalisation on the urban space: we have an interesting research field here, to be studied not only in analytical and descriptive terms, but also from the more operative view-point of planning and design.

Difficulties related to a fully understanding of the real impact of digitalisation on the urban space seem to concern two main interpretative errors (Latour, 1991a; Avgerou et al., 2004; Graham & Marvin, 2001). The first one tends to confine the analysis within an strictly technological reading of the digital dimension, moving from the assumption that an innovative technology can be simply intended as a mere replacement of the slower and less effective previous one. The second error, instead, consists of a persistent dependence from analytic categories used within the highly different historical (and spatial) conditions of the pre-digital age.

Both readings, however, are guided by the idea of a substantial separation and independence between the intangible dimension of technology and the tangible reality of cities, so that a possible more complex interpretation that considers the inter-relations between material and immaterial (space and cyberspace) remains largely unquestioned. It is plain, indeed, that a large part of what happens into the cyberspace is deeply influenced by material practices, imaginaries, social and economic relations occurring in the material space. In other words, what the two above-mentioned readings tend to ignore is that an essential implication of globalisation consists of an increasing digitalisation of the urban dimension. This highlights the limits of a mere topographical representation, and forces us to rethink our traditional interpretative categories and operative tools (Scoppetta, 2011).

The matter in hand does not consist of a certain resemblance between virtual and real spaces (or between virtual spaces and the imaginary of real urban spaces) in the sense highlighted by Ursula von Petz<sup>1</sup>: «In the Seattle EMP [...] Museum you can travel into a virtual plaza of a Spanish or South America small historic town, where people sing and dance joyously and integrate you seemingly into their happy street life. A deception. [...] the environment of the virtual event is an invented historic site in the taste of CocaColaLand [...] and not at all a futuristic spacelab or skyshuttle. Is it our restricted fantasy that prevents us to simulate some future images? Do we want to assure ourselves of the familiar past on our way into the new?».

The question rather is to highlight the emerging of a new multidimensional nature of urban space, i.e.: the co-existence of an immaterial component that is incorporated into the material, and cannot be intended as separated from the materiality of places. The limits of a topographical description/interpretation precisely lies into the incapacity to capture such multidimensionality through traditional categories that are still based on a rigid and unfruitful separation of material and immaterial.

### **3 THEORETICAL IMPLICATIONS OF TAKING MULTIDIMENSIONALITY AS A BASIC FEATURE OF PLACES**

#### **3.1 Co-existence of global and local dimension**

A first important implication of the proposed approach concerns technical-disciplinary issues, and it is related to an interpretation of urban space aimed at overcoming the dichotomy between local and global. In fact, the main part of what we perceive as local in the reality can be rather interpreted as a micro-environment having a global span given because of its high or low degree of inter-connection. In this sense, each object that can be mapped as a place through a topographical description of its materiality is (can be) also a part of a long-range reverberation.

This is the case of the inseparability between international finance (an highly digitalised and immaterial global activity) and (very material and local) real estate, which can be interpreted (Sassen, 2008) as emblematic of both the multidimensional nature of contemporary urban space and the inadequacy of traditional interpretations and models.

Phenomena related to immigration in our post-industrial cities, with its internet point and money-transfer services (Hannerz, 1997), show us, however, the ways in which what we have always thought as “places” can really be nothing but single elements of wider territorial systems as they support larger networks and diasporas (Tarrus, 1992). Although unperceivable according to logics that do not consider such further amplified dimension, in planning terms such “places” can be interpreted as “centralities” in all respects, and they end up to (informally) modify the “functioning” of that place within the city. Assuming the multidimensionality of urban spaces could allow us to better and more precisely understanding the disperse circulatory nature of contemporary territory (Tarrus, 1992) in order to elaborate effective urban policies answering the needs due to the relevant changes given by such new constantly re-territorialising plurality.

Furthermore, what we have traditionally interpreted and perceived in planning terms as a “centrality” (i.e.: a place of concentration high-level functions, as in the case of CBD) can be no more simply associated to a geographical centre with a specific physical shape (a concentration of office buildings and skyscrapers into the inner city): business activities, in fact, may have a disperse physical shape (Marcuse & van Kempen, 2000; Graham & Marvin, 2001; Scott, 2001). Evidences are given by the fact that the (concentrated) CBD in Chicago and the (disperse) Silicon Valley share the same functions within the world digitalised economy, but their geographical shapes are deeply different.

And, however, evidences of such compenetration of material and immaterial, places and flows, real and digital come from the contemporary territorial (and institutional-political) rescaling, on which a vast literature exists (among the others: Sum, 1999; Taylor et al., 2002; Barry & Slater, 2002; Ferguson & Jones, 2002; Brenner, 2004; Olesen, 2005; Miller, 2009; on the European case, see: Berezin, 2003; Brenner, 2003; Gualini & Woltjer, 2004; Scoppetta, 2012d; 2012e) and highlights the destabilisation of older hierarchies, although such new organisations and formations do not replace them at all, but rather tend to emerge alongside them.

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<sup>1</sup> Lecture at the 4th Biennial “Culture of the city – transformations generating new opportunities” (Rotterdam, Sept. 20-22, 2001).

In the Italian case the proposed multidimensional interpretation has found full citizenship at the regional scale, resulting in the effective image of the «multi-layer territory-network»<sup>2</sup>, which refers to flows of goods and people, but also of knowledge, capitals, innovation and ideas that are conveyed through social and digital networks.

Therefore, what is questioned here is how this view can be taken at a closer scale for the interpretation, planning and design of urban public space.

### 3.2 Political implications

A second relevant implication concerns the sphere of values to which the project of urban public space is to be referred, and this clearly is an implication of political nature. In fact, the acknowledgement of the new multidimensionality of places includes the possibility that some elements of the urban topography can be understood as the spatialisation of global and essentially digital dynamics. The political dimension of the issue precisely lies in the nature of such global digital dynamics.

This results in two different possible directions of investigation: the first one moves from the assumption that such dynamics are essentially market-oriented, since several studies (Sum, 1999; Urry, 2000; Brenner, 1998; 2004; 2009; Magnusson, 2009) have highlighted the ways in which the contemporary rescaling tends to cut across institutional dimension of territories through policies such as deregulation and privatisation, with consequences related to the privatisation of urban public spaces, social exclusion, segregation, spatial control, and so on.

The second, instead, moves from the observation of the increasing use of digital modes by social movements and political activists that, traditionally, are strictly linked to the immobility of local dimension. Think of networks of environmentalists that are interconnected through the web and that insert their specific local territorialised instances within broader de-territorialised global circuits (Cleaver, 1998; Mele, 1999; Donk et al., 2005; Garrett, 2006). In this sense, the emphasis on the multidimensional nature of places means highlighting a renewed relevance of social and political movements in the construction of urban space. And, moreover, as in the case of international finance, the immaterial dimension of inter-connections does not seem to be able to leave out of consideration the materiality of the city (rather than the national level) as the main space of political action (Torres et al., 1999; Lovink & Riemenes, 2002).

In this sense, the digitalisation of global finance has led Greece to a semi-bankrupt, just like the mobile synergy of SMS, alternative websites (such as Athens Independent Media Centre), different social applications – such as blogs of occupied universities, Twitter and other micro-blogs, Facebook and further networking sites (see: Milioni, 2009) – have played a relevant role as useful tools of communication and information exchange (text photos, videos) for individuals, affinity groups, collectivities and associations during the recent (2009 and 2012) struggles in Athens.

What is to be highlighted here is the way in which what started as a social conflict, due to the economic crisis combined with major cases of government corruption, has then evolved to a multifarious and inventive reclaim of city public space, so that we may say that urban space and its uses have become one of the stakes of the conflict, and the latter has ended by actively transforming such spaces, since new more or less temporary forms of spatiality have emerged in terms of both concrete arrangements of physical elements and ways to perform them, and they represent the ways people who participate tend to imagine spaces that will house the life they fight for.

Thus, in such molecular more or less temporarily re-appropriated free areas of otherness – which, however, can be defined by a recognisable perimeter (e.g.: in the case of Exarchia neighbourhood, where a large parking lot was transformed to an urban park through both open design meetings and online discussion and negotiations) – can be conceptualised, according to de Certeau (1984), as «a migrational, or metaphorical, city slips into the clear text of the planned and readable city», in which innovative social practices can be experienced: affordable food products bought directly from the farmers are now provided by the self-organised “potato movement”, and non-monetary local exchange systems and time-banks are practiced (Dalakoglou, 2012).

<sup>2</sup> As defined by the research study SIU-MIT/DiCoTer (2006) “L’armatura territoriale e insediativa del territorio italiano al 2020. Principi, scenari, obiettivi” (coordinators: A.Clementi, G.Dematteis, P.Palermo). See also: Scoppetta, 2012b.

Thus, especially this second direction of investigation may lead to more fruitful outcomes in terms of planning and design, while the first one seems to be more interesting in descriptive and interpretative terms, as it can offer useful insights into otherwise invisible inter-relations between different places.

#### 4 POTENTIALS IN TERMS OF URBAN PLANNING AND DESIGN

In the light of the previously highlighted theoretical implications, three different modes of inter-relation between the material and immaterial dimension are examined here as well as the related planning and design approaches.

##### 4.1 Control of urban flows

A first one refers to experiences based on the potential of typical ITC real-time representations, an effective tool for mirroring an “object” – the city – which is characterised by multiplicity and movement. The privileged technology, in this case, is the mobile phone and GPS, whose users are unwitting drawers of thematic maps with space and time coordinates.

The purpose of such real-time maps – which require the construction of a platform for collecting and exchanging data – concerns the control and management of specific phenomena, such as traffic or concentrations related to particular events. In other words, such typology can be used for controlling and managing the unpredictable «hypermobility» (Gillespie & Richardson, 2000) of contemporary urbanity, also given by the result of the individualisation of working arrangements that has produced new «nomadic workers» (Castells, 2001; Prato & Trivero, 1985) with their «office on the run» (Thrift, 1996).

Obviously, this typology of interaction between material and immaterial dimension can be used within traditional top-down planning and decision-making, since participation is unaware. Furthermore, it is to be highlighted that a “dark side” exists: it concerns the potential of controlling spaces (and also people).

An example is given by the Real Time Rome project<sup>3</sup>, in which aggregated data from the use of mobile phones are interpolated with traffic informations. What results is a representation of the (otherwise elusive) “urban ubiquity” deriving from an “hybrid” inter-connection between people, places, and technological infrastructures, between “static” and “fluid” urban elements. Fluidity is given by the time coordinate, which allows to represent, for example, the daily rhythms of a certain neighbourhood, or if the organisation of public transport effectively mirrors and answers the real dynamics of movement and/or concentration as well as the behaviours of specific groups (e.g.: tourists) or of the “urban organism” as a whole during a special event. Especially in the latter case, beyond representing and individuating the places in which people was concentrated, the map based on the use of mobile phones in different moments of the final match of the FIFA World Cup in 2006 returned phases and trends of collective enthusiasm, i.e.: it was able to represent the different intensities of (collective) emotion.

##### 4.2 Community-building

The second typology of inter-relationship between material and immaterial space is linked to the spread of social softwares and the related virtual communities (Schuler, 1996), i.e.: groups that differ from the traditional ones for both the lack of face-to-face contact and the use of technology as preferred tool.

This has resulted in the interpretation of virtual “places” as public space in all respects, since they can be related to the Harvey’s definition of space (2000) as «predominantly social construction» as well as the Lefebvre’s well-known dialectical triad of the «production» of urban space (1974) – material space, representation of space, spaces of representation – according to which space can be interpreted as a tangible place of experience, as a conceptualised mental space, and as an interiorly lived space through emotions, desires, imagination, and memory.

A further example is given by the Lynch’s study (1960) on the imageability of the city and the ways in which people, through their informal understanding, thought about its structure in terms of their own movements and opportunity to act: the Boston he describes is not a city made by grids and precise measures, but it rather is a loosely defined region, which is made by paths, landmarks, and networks.

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<sup>3</sup> The project is one of the implementations of the “Wikicity Project”, developed at the SENSEable City Laboratory of the Massachusetts Institute of Technology. See: <http://senseable.mit.edu/wikicity>

In general, the design approach based on the typology of inter-relation of social softwares seems to be particularly fruitful as it can be referred to an idea of public space as a «construct» – in the sense used by Pasqui (2001) – or, better, as «activated construct», following an interesting definition of “context” formulated by Weik (1969), which, in turn, refers to Giddens (1984).

In particular, two different design levels can be individuated within this second typology of inter-relationship between material/immaterial, and they are aimed at translating the interaction in more or less transformative consequences about a place (about its distinctive meaning).

In both design levels the characteristic element consists of the existence of an identity link between the virtual community and a specific place (Hampton, 2002; Scopetta, 2009), and the latter may be the daily living environment of the components of the community, e.g.: their neighbourhood (Hampton, 2007). In this sense, the first level of the interaction consists of the fact that the construction of the virtual community moves from a map which is shared online. The emphasis is not so much on the ability to reproduce specific real places in the virtual space by replicating them (e.g.: through the use of 3D technology<sup>4</sup>), but it rather concerns the possibility of using the potential, given by the interactions and feedbacks of social softwares (such as Facebook, My Space, and so on) in the construction of social capital (Hampton & Wellman, 2003).

Such virtual maps, therefore, consist of representations that are collectively constructed online and that represent places that are understood as subjectively experienced, perceived, desired, i.e.: by including the “thickness” of a narration, or of a spatial practice.

A second level of interaction may be linked to cooperative needs of mutual exchange<sup>5</sup> or – being constructed around specific problems or claims also expressing a certain degree of potential design – can result in participative planning processes (Apostol et al., 2008). These are experiences that can be re-connected to the Lynch’s «good city form» (1981) or, more generally, to the mainstream of community planning, or, with reference to the Italian context, to the «identity maps» of the “territorialist school” (see: Magnaghi, 1990; 1998; 2000), which are aimed at creating synergies between “expert” and «local knowledge» (Geertz, 1993; see also: Scopetta, 2012a).

The most trivial variant of such approach is the “institutional”, which becomes merely passive especially when is intended as (uni-laterally) “communicative”, since it is too often aimed at seeking consensus around essentially top-down decision-making processes in which participation mainly tends to be seen as «exit» (as in the case of audit or similars) and not as «voice» (Hirshmann, 1970).

#### 4.3 Post-representational maps

A third mode of inter-relationship between real and virtual space includes a series of experiments that focuses not so much on community-building, but rather on the unexpected emerging of a place to which further temporary meanings are given thanks to their “construction” through an online interaction. This is the case of the so-called “flash mobs” that consist of the sudden and temporary concentration in a public space of a large number of people, which is activated through a flow of communications via web or via mobile phones, in order to play an unusual or extraordinary action, and then to disperse. Examples are given by experiences such as Meetup<sup>6</sup>, in which a virtual community, which is established moving from a shared interest (and not from a place), meet or organise an event into a real place.

Such experiences clearly refer to the Situationists’ practice whose aim was to reinvent everyday life in urban space by constructing situation which disrupted the ordinary and the normal in order to jolt people out of their customary ways of thinking and acting (see: Debord, 1994). By using the *dérive* (i.e.: the urban flow of act and encounters) and *détournement* (i.e.: re-routing of events and images), Situationists developed a number of experimental techniques stressing the relationship between events, the environment, and its participant.

Unlike the previously mentioned typology, what prevails is an occasional and temporary character as well as the lack of any identity link between the virtual community and the real place. Thus, while the previously

<sup>4</sup> An example in this sense is given by Twinity, in which the avatar of the online community move within a virtual representation of certain places of the city of Berlin. See: Twinity on-line community (<http://www.twinity.com/>).

<sup>5</sup> This is the case of i-neighbors on-line community (<http://www.i-neighbors.org>) or Peuplade on-line community (<http://www.peuplade.fr/>).

<sup>6</sup> See: Meetup on-line community (<http://www.meetup.com/>).

described mode can be considered as an expression of instances and needs of the Castell's «space of places» (1996), the latter rather seems to refer to a «spaces of flows». Not surprisingly, frequently the relationship between virtual and real does not occur with reference to a single site, but rather to a network of places as well as the spatial experience that is played does not tend to be linked to the daily lived neighbourhood dimension, since it rather consists of crossing (and so linking together) different spaces as a discovery/invention of innovative territorial values and meanings.

It is not a coincidence, therefore, that the design dimension tends to be expressed through a map, and the latter may be intended as a post-representational map (Kitchin & Dodge, 2007; Kitchin et al., 2009) that is not assumed to be mirror of the world (it does not describe and explain it), but rather to produce (to re-create) it by making propositions, so that it is about «the construction of meaning as a basis for action» (Wood & Fels, 2008). Since they are socially constructed (Harley, 1989) – and, as such, «dialogic, polyphonic and multivocal» (Pickles, 2004): the writing the heterogeneity of (collective and individual) “histories” and narrations onto the multiplicity of contemporary urban geographies – such maps can also be intended as a set of social practices and, therefore, they as «mobile subjects» (Del Casino & Hanna, 2005) in a constant state of becoming. The digital de-materialised component provide these post-representational maps of a sort of instantaneous connective echoes that amplifying the organised event.

Not infrequently, the emphasis is on spatial experience as an artistic practice, which often explicitly refers to a wide range of creative streams: from the happening to the Situationists' psychogeographical actions; from the theatrical post-avant-garde to the cyber-performance. But it is worth noting that such mode of material/immaterial inter-relationship is not always associated with a specific design intent: the latter can consist only of attracting, even if for a short time, the collective attention on a particular place. Even in this case (even if in a different way), the main goal seems to be the construction of social capital as a prerequisite for the transformation/invention of one or more places by highlighting the potential of social creativity and self-organisation (Portugali, 2000). Such scope is pursued not so much through the strengthening of the ties of belonging, but rather through mainly playful interactions as well as by the use of the wide range of available technologies (social softwares, blogs, videos, twitter, and so on) and cross-media platforms (web, mobile, etc.).

## 5 MAIN CONCLUSIVE FINDINGS

Conceptual implications of taking the multidimensional nature of urban spaces, and the different ways in which such multivalency is expressed highlight the shift in understanding the meaning of contemporary design. The latter, in fact, can no longer be simply intended as configurative of spaces, but rather as an interactive and hybrid device, which is able to accommodate the categories of both the social and the natural (Latour, 1999), and to generate not necessarily predictable processes through the establishment and widening of an always changing network of interconnections between subjects/objects/discourses (Latour, 1991b; Akrich & Latour, 1992), who interpret the transformation/invention of a space as an opportunity for the mise-en-scène of its own instances (Scoppetta, 2012c).

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