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Performative Urban Architecture

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Publication date:
2008

Document Version
Publisher's PDF, also known as Version of record

[Link to publication from Aalborg University](#)

Citation for published version (APA):
Thomsen, B. S., & Jensen, O. B. (2008). Performative Urban Architecture: place-making in-between architecture and socio-technical systems. Paper presented at Association of American Geographers 2008 Annual Meeting, Boston, United States.

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Performative Urban Architecture

– place-making in-between architecture and socio-technical systems

Bo Stjerne Thomsen & Ole B. Jensen, Aalborg University, DENMARK

Paper for the American Association of Geographers Annual (AAG) Conference, April 14-20, 2008, Boston, USA

ABSTRACT

The paper explores how performative urban architecture can enhance community-making and public domain using socio-technical systems and digital technologies to constitute an urban reality.

Digital medias developed for the web are now increasingly occupying the urban realm as a tool for navigating the physical world e.g. as exemplified by the Google Walk Score and the mobile extension of the Google Maps to the iPhone. At the same time the development in pervasive technologies and situated computing extends the build environment with digital feedback systems that are increasingly embedded and deployed using sensor technologies opening up for new access considerations in architecture as well as the ability for a local environment to act as real-time sources of information and facilities. Starting from the NoRA pavilion for the 10th International Architecture Biennale in Venice the paper discusses the perspectives of using interactive technologies for performative objects, which are able to register the impulses of urban activity and reproduce the contexts of the city. In this way the performative environment is established as an event setting providing an embodied experience as a 'quasi-object' that can couple relationships between architecture, humans and society. These performative relationships between digital and physical environments are seen as illustrative of the social production of space by performance and the creative production of identity. The paper reflects on the perspectives of these performative environments to understand how the urban is forged in a manifold of actions and interactions and how performative objects can mediate relationships in changing social constellations.

Performative Urban Architecture

– place-making in-between architecture and socio-technical systems

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For a long time architecture was thought of as a solid reality and entity: buildings, objects, matter, place, and a set of geometric relationships. But recently architects have begun to understand their products as liquid, animating their bodies, hypersurfacing their walls, crossbreeding different locations, experimenting with new geometries. And this is only the beginning. We will see more and more architects realising spatialised moments, through staging narratives, through event designing, working with effects and emotions. (Bouman 2005:22)

Introduction

The paper explores how performative urban architecture can enhance community-making and public domain using socio-technical systems and digital technologies to constitute an urban reality.

Digital medias developed for the web are now increasingly occupying the urban realm as a tool for navigating the physical world e.g. as exemplified by the Google Walk Score and the mobile extension of the Google Maps to the iPhone. At the same time the development in pervasive technologies and situated computing extends the build environment with digital feedback systems that are increasingly embedded and deployed using sensor technologies opening up for new access considerations in architecture as well as the ability for a local environment to act as real-time sources of information and facilities. Starting from the NoRA pavilion for the 10th International Architecture Biennale in Venice the paper discusses the perspectives of using interactive technologies for performative objects, which are able to register the impulses of urban activity and reproduce the contexts of the city. In this way the performative environment is established as an event setting providing an embodied experience as a 'quasi-object' that can couple relationships between architecture, humans and society.

These performative relationships between digital and physical environments are seen as illustrative of the social production of space by performance and the creative production of identity. The paper reflects on the perspectives of these performative environments to understand how the urban is forged in a manifold of actions and interactions and how performative objects can mediate relationships in changing social constellations.

The paper is structured in five sections. In the first section we will present the theoretical understanding of the 'mobility paradigm' and the notion of socio-technical systems as the one main theoretical frame. In section two we present theories of performative technologies as the second major theory area. Following the two theoretical sections we in section three explore the empirical case of NoRA – an interactive pavilion build for the Venice Biennale in 2006. Section four follows with a second empirical case, namely that of Smart Cities and the notion of 'performative vehicles'. The paper ends in section five with a short discussion of some of the future perspectives we see on the theme of performative urban architecture and performative urbanism.

1. The mobility paradigm and socio-technical systems

In this section we shall point to a few of the latest theoretical and conceptual attempts to frame and understand contemporary mobility. However, even though much research is being conducted on the importance of understanding mobility in relation to the geographical and the social realms of society (Cresswell 2006, Graham & Marvin 2001, Jensen 2006, Urry 2007), we could argue for an understanding of mobility as particular dependent on interactive technologies and socio-technical systems since *'... the powers of 'humans' are always augmented by various material worlds, of clothing, tools, objects, paths, buildings and so on'* (Urry 2007: 45). Here we will focus on three themes; *flows and mobility, technologies and place, and the Re-configuration of the public and the political*. Arguably much more should be said about this, but here the main point will be to frame key issues of relevance to bring out a deeper understanding of the cases of performative architecture that we will discuss in the paper.

Flows and mobility

In this section we are interested in showing some of the arguments present in the theories of the fluids and mobile city. In particular we will put an emphasis on seeing mobility as having unexplored potentials for community-making by crossing socio-technical systems. According to Amin and Thrift we should start out by acknowledging a new way of thinking about the city in the first place:

'We have begun to see how urban life is placed by lines of mobilities and travel and by namings and imaginaries ... The city thus needs to be seen as an institutionalised practice, a systematized network, in an expanded everyday urbanism ... an ontology of encounter or togetherness based in the principles of connection, extension and continuous novelty ... In such a conception, the city is made up of potential and actual entities/associations/togetherness which there is no going beyond to find anything 'more real' ... In other words, it belongs to the nature of a 'being' that it is a potential for every 'becoming' (Amin & Thrift 2002:26 & 27)

Understanding the new importance of mobility and flow to the contemporary urban situation is however not as new as it might seem. Already Lynch noted for example, that not only were the flows of the city essential to its meaning and functionality but as important – mobility was a positive and essential experiential feature of the city:

'Travel can be a positive experience; we need not consider it pure cost ... Travel can be a pleasure, if we pay attention to the human experience: the visual sequences, the opportunities to learn or to meet other people' (Lynch 1981:274)

From such a rehabilitation of mobility as meaningful and culturally important grew a contemporary critique of seeing infrastructure as purely instrumental. In the words of Ingersoll:

'Transportation infrastructures continue to be designed with the positivist ethos of government institutions and thus elicit a certain inevitable determinism that corresponds to the economics of increased mobility ... To approach infrastructure as art can provide a way of dealing with the violence it interjects into the urban system and become a means of creating civic meaning' (Ingersoll 2006:123-124)

The networked mobility seems to have become a new ground condition for much contemporary urban experience and thus demands new theoretical reflections:

'Moving physically while keeping the networking connection to everything we do is a new realm of the human adventure, on which we know little' (Castells 2004:87)

Arguably the networked mobilities of contemporary urbanism are producing and re-producing complex relationships between physical location and socio-technical systems of infrastructure. It is in the mediated meeting between technology and place that the performative urban architecture start to materialise.

Technologies and place

Physical space is being over layered with mediated technologies of all sorts, creating a situation of ‘augmented space’ (Manovich 2006). This, however, is by no means related to the ‘end of geography’ or the seamlessness and frictionless utopias analysed in the literature (Jensen & Richardson 2004). Rather, we see a situation where sites are mediated by ‘local protocols’ (McCullough 2002) and where

‘...spatially dispersed yet coordinated, fluid collections of wirelessly interconnecting individuals – perhaps assembled, from the beginning, in cyberspace rather than at any physical location – are becoming a crucial fact of urban life’ (Mitchell 2003:161)

The understanding of the interdependence of technologies and mobilities are essential to understanding how place increasingly becomes mediated and thus ‘produced’ by technologies. Furthermore, such and understanding must include a notion of a relational geography which:

‘ ... lays a stress in movement, fluidity and ‘mixture’ in such a way that it becomes apparent that any approach to urban governance and urban planning, say, cannot proceed on the basis of some final, formal plan, nor work with an assumption of a reachable permanent harmony and peace. The order of cities is a dynamic order. What is necessary is a way of approaching this fluidity, openness and density of interaction: a thinking about process’ (Massey 1999:161)

The situation may be described as one of ‘emergent urbanism’ (Pinilla 2007). It is a situation where the fixed hierarchy of global and local becomes blurred and the notion of ‘scale’ becomes more a question of mediation, networked selection and mobility. Thus we may say that we move from a situation of homogenous and fixed conceptions of spatial configurations towards a situation of heterogeneous and fluid conceptions of spatial configurations (see figure 1).

Fig. Conceptions of spatial configuration On the left, a ‘homogeneous conception,’ where proximity is even as spaces are located ‘next to each other’. On the right, a heterogeneous conception, a consequence of the insertion of communication technologies; here, proximity is determined by the medium of communication.

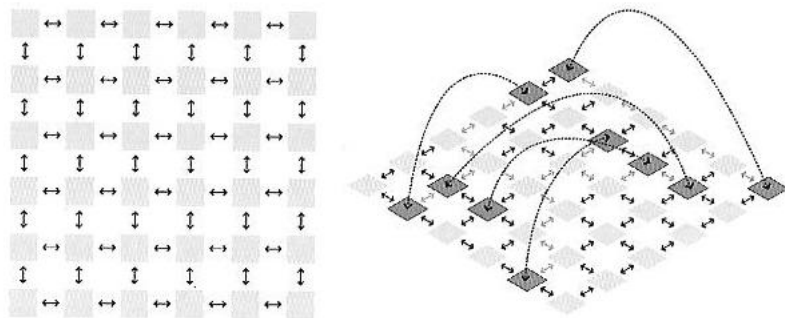


Figure 1: Homogeneous or Heterogeneous conceptions of spatial configuration (Pinilla 2007:89)

The key point being that in the heterogeneous model proximity is defined by selective and filtered mediation. In other words, the networked relationship and the layers of communication may (to a certain extent) compensate for a lack of physical proximity. At least it is safe to say that in the heterogeneous model sites become defined by the degree of mediation and networked links – or bypasses. So rather than subscribing to a notion of ‘end of geography’ and footloose visions of cyberspace, we want to point to the increasing (but clearly transformed) important relationship to material and physical sites. What happens to notions of ‘place’ in such a context? According to Thrift:

‘The short answer is – compromised: permanently in a state of enunciation, between addresses, always deferred. Places are ‘stages of intensity’, traces of movement, speed and circulation’ (Thrift 1996:289)

Place is defined by the flows and fluids either crossing through it or for various reasons bypassing it (e.g. powerful software selection or physical decoupled sites). However, this does not mean that we should seize to include the fixed and the permanent in our theoretical understandings. Rather, flows needs fixity (McCullough 2004) or as Urry argue:

‘... it is the dialectics of mobility/moorings that produces social complexity. If all relationality were mobile or ‘liquid’, then there would be no complexity. Complexity, I suggest, stems from this dialectics of mobility and moorings (Urry 2003:126)

We would argue that within such a re-configured situation of flows and places where new socio-technical systems produced new hybrids between place and flows, between technology and place, and between communities and technology there is a new role for understanding the political city and the notion of ‘shared’ space and public domains. Within such new hybrid systems of place and flow we may start to think of the notion of ‘Hertzian landscapes’ (Mackenzie 2006:141) as a way of understanding the mediated ground condition for performative urban architecture. However, just as we do not see the value in thinking about a placeless understanding of the new media and technologies, so we would also argue that an unrestricted and information-flooded condition makes no sense. Only by selection, placement and challenging networks does it make sense to think about mediated places and technologies. In the words of McCullough there is a need for ‘local protocol’ (see figure 2). The point being that heterogeneous conception of spatial configuration we saw presented in Pinilla’s figure at a more local level is requiring selection, boundaries, and structures – in McCullough’s words ‘grounding’.

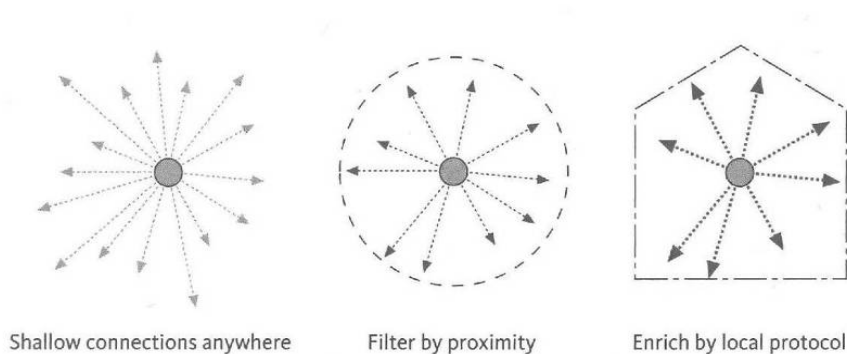


Figure 2: ‘Enrichment by local protocol’ (McCullough 2004:142)

Re-configuration of the public and the political

In the contemporary mediated city of flows we need to rethink the political and the notion of the public. In new hybrids relationships between technologies and humans potentials (as well as dangers) arises. In understanding the potentials of performative urban architectures we may start by re-interpreting the notions of 'public' spaces. To us the investigation into if sites facilitates interactions between different social groups and thus constitute a 'public domain' (Hajer & Reijndorp 2001) is more important than keeping the fictitious vision of just one public space alive. In the contemporary city of flow a new discussion about interaction and mediated spaces must be opened:

'The expanded and mobile city implies a new agenda for the design of public space, not only in relation to the urban centres or in the new residential districts, but especially in the ambiguous in-between areas ... Furthermore, we seem to think too much about public space in the sense of fixed and permanent physical spaces, and we give insufficient consideration to the way in which public domain comes into being in flux, often extremely temporarily' (Hajer & Reijndorp 2001:14 & 16)

To us this suggests itself as an idea relatively compatible with the critique of the modernist notion of the city as one of homogenous communities. The city is a 'difference machine' producing differential subjectivity:

'The city is not a container where differences encounter each other; the city generates differences and assembles identities ... the city is a battle-ground *through which* groups define their identity, stake their claims, wage their battles and articulates citizenship rights, obligations and principles ... The city as a difference machine relentlessly provokes, differentiates, positions, mobilizes, immobilizes, oppresses, liberates. Being political means being of the city. There is no political being outside the machine' (Isin 2002:26, italics in original)

Moreover, we would argue, if the city is a difference machine and the new mediated sites of interaction increasingly are defined by their relative interdependence in a network, then such mediated sites of interaction are potential the new 'mobile agoras' of the contemporary city. From their engagement with mediated urban spaces and the new situation of political articulation Crang and Graham argue for a 'politics of visibility' in which performative installations and art forms experimenting with technologies in the city may become a political platform for exposing the pros and cons of mediated and situated technologies (Crang & Graham 2007). Seen this way, the politics of visibility is about using the new performative urban architectures as windows into a discussion and awareness about the opportunities and threats that cities face. The technologies themselves need to become visible to the communities for them to realise the field of action they offer. Or in the words of Shelley and Urry:

'In many ways, then, the reconfiguration of complex mobility and communication systems is not simply about infrastructures but the refiguring of the public itself – its meanings, its spaces, its capacities for self-organization and political mobilization, and its multiple and fluid forms' (Sheller & Urry 2006:8)

There is a new dynamics between place, mobility, technology and the political that we think needs to be taking into consideration. It is a notion of thinking about this relationship as mediated and open indeed, but equally as related to ideas about belonging and identity. In the words of McCullough:

'... at least to the more mobile and networked of us, place has become less about our origins on some singular piece of blood soil, and more about forming connections with the many sites in our lives. We belong to several places and communities, partially by degree, and in ways that are mediated. With the rise of pervasive computing, more

applications must enhance, and not undermine, our perceptions of grounding place' (McCullough 2007:388)

The spaces in this paper does obviously not suffice to do justice to the theoretical discussion of the full meaning of mobility and technology to our key issue; the notion of performative urban architecture. However, enough is said to lay out our ground perspective on this. We now move towards more explicit to incorporate and define our understanding of the 'performative' as the second major part of our theoretical framing.

2. Performativity and Mediation

This section looks at the new emergent technologies from a performative point of view in relationship to the changes that these technologies enact, how new interactive objects appear and how these are changing the architecture of the city.

Performativity

In recent years a set of new technologies have evolved from the influence of ubiquitous computing and mobile devices connected to increasingly more sophisticated networks. These technologies increase the performative aspects of our interaction with the city and architecture as individual contributions and preferences are increasingly being mediated through individual and mobile platforms.

In this regard performative present the ability for an environment to act with its surroundings with both humans and non-humans as actors focusing on the collective outcome of these feedback processes mediated by new technologies. The central aspect of performativity originates from the 'speech acts' of Austin (Austin 1990), as when words 'do' something and meaning is constituted through an act or practice. McKenzie has tried to generalize performativity aspects (McKenzie 2001) within organization, technology and cultural performance following from the performative acts of e.g. Butler (1993) and Fischer-Lichte (2005) as well as reaching all the way to performativity as a way to legitimate knowledge (Lyotard 1991). These many aspects deals with the overall concepts of the emergent effects of interactions in complex systems as in a society influenced by an increased amount of circulating information and cross-cultural inputs.

The notion of performativity thus involves the understanding of new and more open technological systems that allow for interaction and involvement of individual actors to shape the collective experience of place through new kinds of mediating objects.

The performative technologies

To begin understanding these technologies as a contribution to the urban context and not merely another layer on-top of the existing fabric, as previous understandings of a virtual has tended to focus on, we need to additionally understand the issue of pervasive technologies and interactivity. Pervasive technologies mean that not only are the technologies ubiquitously embedded in our everyday life (Greenfield 2006) but also they are getting increasingly mobile and integrated invisibly into the environment while still connected to the network (McCullough 2004). As a difference to previous technologies that were merely one-way environmentally responsive in the sense that they could make changes according to pre-determined parameters, the *interactive* technologies are dynamically reconstructing input and output (Haque 2007: 61), involving bi-directional communication (Oosterhuis 2007: 4) and making deliberate and variable response to a series of exchanges (McCullough 2004: 20).

The next step from the issue of interactive pervasive technologies is the performative aspect of these interactions, when our urban environments are increasingly getting occupied with feedback processes between various mobile agents and networks – a field recently named as *urban computing*. This leads to a beginning understanding of the emergent effects of interactions in complex environments when objects and people are naturally communicating and embedded in the same kind of networks.

‘No longer solely virtual, human interaction with and through computers becomes socially integrated and spatially contingent, as everyday objects and spaces are linked through networked computing.’ (Kahn, Scholz & Shepard 2007: 4)

The most significant technologies that are pushing this development is within mobile technologies with e.g. gps, gprs, bluetooth, wlan etc., which are all technologies that makes the individual mobile object able to exchange information from local to global and still influenced by its owners preferences. The first introduction on mobile telephones was as permanent devices in cars, as in the example of Ericsson, who had a terminal in his car that he could attach to wires and poles when away from his office. Later they were embedded as real cellular based mobile devices in trains before it really integrated as part of the social consciousness and youth culture in the 1990’s (Ling 2008: 12f). These digital networks were traditionally considered as separate infrastructures that did not have any resemblance of the local environment but instead were used for long-range communication. However at the same time as the tracking technologies are getting increasingly more detailed, also at the same time new services are making short-range social networks possible through the introduction of rfid and bluetooth technologies embedded in the urban architecture. This local access creates potentials for meaningful communication with local infrastructures as part a more situated computing.

‘Cities do not disappear in the virtual networks. But they are transformed by the interface between electronic communication and physical interaction, by the combination of networks and places.’ (Castells, 2004:85)

The recent upgrade of e.g. the Google services with the Walk-Score where you can make a ‘walkable’ profile of your neighborhood and the Street View with high-resolution images of the streets (Vincent 2007: 118) are now extended into mobile phones which increases the perception of the local environments. The mobile phone is no-longer only a generic tool for communication and global gps-positioning but encompasses localized information for a more spontaneous urban navigation including the wide range of new network services to extend the mobile phone as a personalized way-finding tool with guides, social networking, real-time localized information, local remote for bill boarding etc.

At the same time as the mobile devices are getting upgraded with more situated services and connections, the urban architecture is increasingly being facilitated by a response to the presence of mobile phones thereby emphasized local feedback loops. Interactive facades as Blinkenlights and Spots on Potsdamer Platz in Berlin as well as the application from GeoVector and Microsoft focuses on the mobile as a new locative ‘remote control’ to physical environments, facilitating a direct manipulation of the physical environment with emergent collective impacts. The mobile phone and similar distributed and connected objects begins to influence the perception and representation of the urban environment as we are negotiation the collective presence.

Mediation through objects

To understand how these objects begin to influence the social realm and the embodiment of people in places we need a slightly revised vocabulary that no-longer sees mobile devices and interactive architectures as merely functionally optimized and materialized representations of a static

understanding of the city. Instead these objects travels in between different spaces, change their appearance, circulate information, facilitate interaction and generally become focal points for a social realm through the relationships that they are enacting.

The philosopher Michel Serres uses the definition of a quasi-object as the 'third' object in this intersection between the solid and the fluid as 'a marker of the subject' (Abbas 2005: 2), 'a thing that circulates' and a 'mediating object' to fix temporary relations (Abbas 2005: 177). They exist in different variations within both the social and the architectural realm as Latour could call these objects for 'mediators' (2005: 39), Winy Maas points to 'devices' that can combine large-scale issues with individualized input (Tschumi 2004: 4) and Spiller imagining them as 'dreamy objects' when 'electronic objects' are '*arising from their ambiguous identity as hybrids of matter and radiation, functioning at all scales and speeds as well as going beyond the range of human perception.*' (Spiller 2002: 297). Basically these objects change the relationships and the perceived reality of the urban through the feedback processes they are involved in.

'An object will have many selves, many simultaneous forms. Technology is forcing the object to become a subject, partial and anamorphic. The anamorphic object changes form when viewed from certain viewpoints, in different fields or in distorted mirrors. The new objects will have formal qualities that are determined by the virtual or physical terrain in which they are viewed or manipulated.' (Spiller 2002: 306)

In a time with increased communication and access to larger amounts of information, these quasi-objects gets even more important to investigate as through the access we '*establish meaning, construct knowledge, and make sense of our surroundings by associating items of information with one another and with physical objects.*' (Mitchell 2003: 120) And as per Actor-Network Theory '*Each object gathers around itself a different assembly of relevant parties. Each object triggers new occasions to passionately differ and dispute.*' (Latour 2005a: 15). What happens we would argue is a new configuration of objects and subjects in a complex networked relationship based upon layers of mediated communication, local protocols, and feed-back systems. This is the defining characteristics of performative urban architecture (see figure 3).

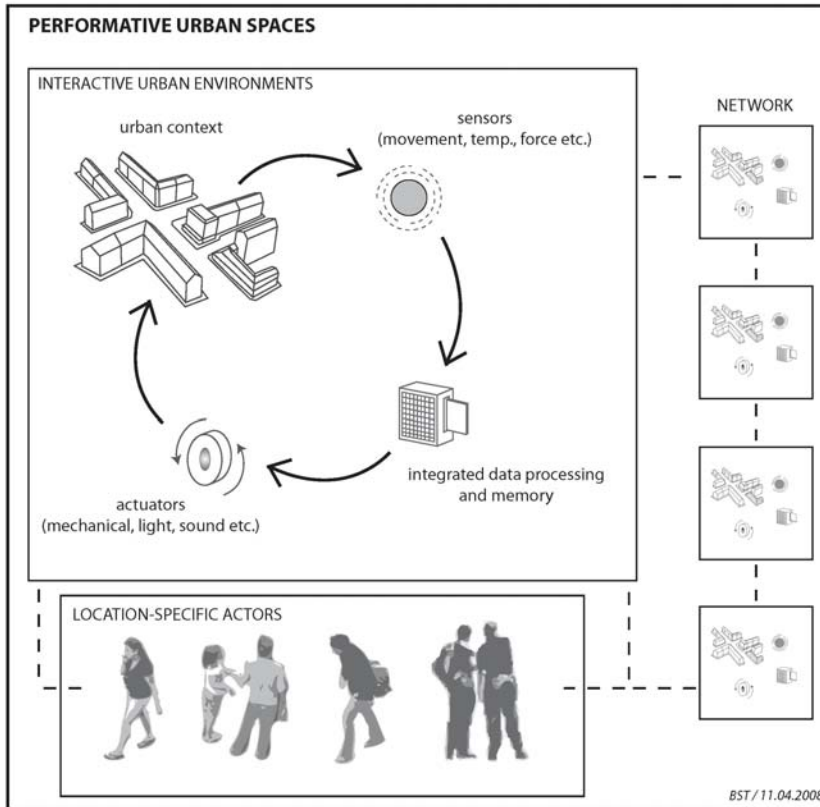


Figure 3: Performative Urban Spaces (Graphics: Bo Stjerne Thomsen)

The beginning understanding of these ‘quasi-objects’ is not only that they become increasingly integrated in our everyday life as part of the sensor and network technologies that they carry, but also that we as humans are increasingly extended by these technologies in a sense that we act as ‘quasi-subjects’. Our actions are determined by the technologies that we carry and the way we perceive our reality through them. Thus we need to look at new possibilities for investigating how the relationship of these new interactive technologies shape our social relationships, environments and culture as part of the socio-technical processes:

‘Once we are able to establish a connection between emotion and construction, human bodies will naturally communicate in real time with other dataprocessing devices like instruments and buildings.’ (Oosterhuis 2002: 93)

Thus far we now want to turn to the empirical cases and examples of performative experiments within urban architecture. The first case we shall look into is the NoRA pavilion build for the Architecture Biennale in Venice 2006.

3. Example 1: NoRA – Architecture and event as performative identity

The first example to illustrate the introduction of interactive technologies in situating experiences and mediating place of mobility is through the NoRA pavilion for the 10th International Architecture Biennale in Venice. The pavilion was designed as an event base for the National Culinary Team of Denmark as well as a temporary generator for urban development, site initiator and forum in urban environments, which could activate and involve the citizens as part of a quasi-object.

Through the understanding of new infrastructures (Graham & Marvin 2001), complexities and global fluids (Urry 2003) and the study of fluids and relations (Mol and Law 1994) the architectural process was inscribed in the complex flow of relationships interweaving through the site. Instead of focusing on a static and pre-determined intension for a site as the beginning constraints, it was more important with the idea of Bergson, that position should be secondary to movement (Massumi 2002: 6) in order to maintain the architectural experiment open for attachments using interactive technologies.

Using digital technologies to situate the pavilion as a mediating quasi-object a range of potential frictions was simulated from fluid parameters and embedded into a mobile prototype to be affected using interactive technologies. Thus the mobile architecture emerged as a fragment of a place but being performed with a variety of different actors in the moment when perceived on location. The participation in the space was augmented by the technologies and as from the 'place-ballet' metaphor by David Seamon, *'it is through participating in (these) daily performances that we get to a place and feel part of it.'* (Cresswell 2004: 34)

For the same reason the design language of the pavilion was maintained with ambiguity in expression allowing for a multitude of representations where instead the embedded sensor technologies provided individually triggered patterns of light and sound. The patterns emerged as from the collective performances of the participants involved in shaping the public domain on site.

'Place in this sense becomes an event rather than a secure ontological thing rooted in notions of the authentic. Place as an event is marked by openness and change rather than boundedness and permanence. This significantly alters the value put on place as it is constructed from the outside rather than from the inside.' (Cresswell 2004: 40)

These interactive systems of NoRA extend into different ambient configurations to be both remotely controlled by the internet, sensed and affected by the citizens passing by as well as a tool for the users inside the pavilion using five different cameras. The inside cameras are for the users to facilitate performance, record and stream to the internet, while the exterior cameras located in remote 'satellites' was tracking people to negotiate changes in the visual and auditory appearance of the pavilion.

NoRA not only became the media for interaction in the city but as well the other way around as an actual media and instrument for a performative environment where the participant was able to gradually affect the collective experience of architecture. An issue further treated in the 'Increasing Media Connectivity' paper from November 06 at the Media City conference in Weimar (Jensen & Thomsen 2006).

NoRA became performative when it acted as a tool with the environment and negotiated the emergent effects of the urban complexity using new socio-technical systems for attachments. Thus the performative collective act mediated through the quasi-object gather around it a site-specific assembly that cannot be predetermined.

'...performative acts / performances do not express something that pre-exists, something given, but they bring forth something that does not yet exist elsewhere but comes into being only by the way of the performative act / the performance that occurs.' (Fischer-Lichte 2005: 27)

The technologies of the NoRA pavilion allowed for the circulation of individual contributions through a mediating object thus allowing for architecture to participate actively in shaping social

relationships. The pavilion was initially designed from a potential site and carried out as a fixed infrastructure allowing for individual input. However the next example tries to extend this notion of interactivity and sharing into a mobile object, which not only exploited the possibilities on the pervasive and interactive technologies but also allowing for meaningful spaces to occur in transit.

4. Example 2: Smart Cities and Performative Vehicles

The next example is based upon an ongoing research at the MIT Media Lab in the Smart Cities Group exploring new smart vehicles for optimal use in dense urban areas. The current City Car has been developed throughout the recent years in collaboration with General Motors and now stands out as a vehicle with engine, break and suspension integrated in so-called 'robot-wheels'. At the same time allowing for a smaller electric and foldable vehicle that can be used as a mobile agent when its intelligent control system negotiates services as parking space, energy usage and general communication with other mobile agents.

However the growing interest in these new optimized vehicles with a smaller footprint and better utilization of resources are still mainly focusing on the idea of moving around people in the most delicate way. By bringing in some of the perspectives of NoRA introduces a beginning understanding of the vehicle itself as a potential for the urban environment, and as a quasi-vehicle which also in place could provide meaning to location.

The vehicle was designed by investigating the potentials of the car technologies to become performative infrastructure for shared urban use. The systems developed for the individual automobiles allows for the integration of interactive technologies that incorporates feedback between the vehicle and the local environment as well as coupling more devices and systems together. Most noticeable is the concepts of incorporating both internal and external communication systems into the design of vehicles allowing them as instruments for an urban dialogue. Secondly the spatial constraints of the existing automobiles mainly focuses on the security issue of moving and by opening up these facilities for temporary use in parked conditions they occupy a more meaningful and potential collective use in the city.

Despite the fact that people are carrying out a variety of other activities while driving, it is of no surprise that the automobile is mainly used for moving, as the car is designed as a 'driving-system'. Dant describes these 'motor car affordances' as generally fixing the human into the mobile and merely as a progression from previous modes of transport (Dant 2004).

However extending the notion of the automobile as a means of transportation into place-based mobile objects, the technologies for the vehicle was transformed by introducing a design that allowed for both energy production with solar cells and energy distribution with batteries but also to drive a communication system with internal and external screens and local protocols integrated in the car design. Secondly the interior of the car designed as a comfortable seat for movement was inverted as a shared urban lounge acting both as a workable platform with mobile technologies and as a coupling device with other cars.

The new mobile technologies as outlined above with e.g. google earth, street and in general a variety of mobile services and networks provides an apparent potential of situating the experience of mobility as we bring along our most valuable items with us through technological extensions. These technologies however are only rarely place-based as they mostly refer to global networks and not peer-to-peer systems allowing for immediate social relationships to occur. By providing new mobile object-based platforms with specifically relate to our physical bodies, we are introducing a performative urbanism that allows for social relationships and changing use of transit spaces.

Provided that a shared vehicle would be able to transform as a 'difference machine' that individuals can customize and communicate through, would radically reconfigure the concept of moving as a static procedure from one point to another, to a more progressive aspect of negotiating, sharing and creating through mobile object-based technologies. These new vehicles are parts of complex new systems of infrastructures with beginning understandings of this quasi-car as a 'post-car'.

'This system of the 'post-car'... would consist of multiple, dense forms of movement including small, light, smart, probably hydrogen-based, de-privatized 'vehicles' electronically and physically integrated (seamlessly) with many other forms of mobility. In this post-car system there will be a mixed flow of slow-moving semi-public micro-cars, bikes, many hybrid vehicles, pedestrians and mass transport integrated into a mobility of physical and virtual access' (Urry 2004)

In the sense that the previous automobile technologies was closely bound to the industrial age, the coming perspectives of these quasi-vehicles as performative objects introduce a new perspective on culture in relation to an augmented space through interactive mobile objects. In the same way as the 20th century vehicle shaped the industrial division of the city into specialized zones, the emergence of new types of quasi-vehicles will radically transform how spaces are shared, developed and socially constructed through performative objects provided that new sites are designed for these temporary attachments.

5. Future perspectives of a Performative Urbanism

Coming to an end of this paper, we want to explore a few pertinent issues and reflect upon some future perspectives of performative urbanism as we see them today. Rather than presenting strict 'findings' and results we want to point as emergent issues and future research themes and questions that we find grows out of these experiments. To us the key issues and questions becomes; Which kind of environments are we heading towards when considering the impact of new technologies and the transformative nature of objects? Can we imagine a Performative Urbanism that increasingly stimulates urban quality and public domains as areas of temporary attachment? How do these objects influence culture and identity?

Following from the examples outlined we can begin considering the influence of pervasive and mobile technologies of the city to interact and integrate with new kinds of performative objects that no-longer consider representation as its main aim, but instead provides new platforms for mediating social relationships and temporary occupation. This radically transforms how to perceive mobility and place in the sense that we can begin discussing places as constituted of moving quasi-objects that can couple relationships between people and spaces with technologically as providing temporary attachment.

With Actor-Network Theory as noted above the new quasi-object are actors in shaping relationships in the same way as humans are related in networks. Thus to overcome and discuss a new performative urbanism the objects that we surround us with should be rethought in the light of new technologies that can shape social relationships as part of a cultural production.

In relation to critically explore the potentials and pitfalls of new mediated places of mobility, Jensen (2008) points to a number of questions and issues that may facilitate further discussion and analysis as well as the debate on the future perspectives of performative urbanism. In extension of these perspectives the following paper proposes to emphasize these matters in particular:

- Unfold a 'politics of visibility' (i.e. projects that help making visible the 'invisible' issues and problems of new mediated spaces)
- Explore prototypes for interactive urban artefacts and sites of interaction facilitating new public domains as place-making with new socio-technical systems
- Whether mediated interaction spaces become even more meaningful and culturally enriching if we enhance the technological networks of such spaces to how digital technologies may empower mobile social agents as embodied experiences
- Exploring how new interactive technologies shape our social relationships, environments and culture as part of new situated technologies and local protocols.
- Understanding how mobile technologies affects the perception of space and participate in shaping realities (performative urban architecture producing effects)
- Looking at ways to design new quasi-objects as site-specific assemblies that are participating in producing reality through socio-technical systems
- Investigating how quasi-objects travels in between different spaces, change their appearance, circulate information, facilitate interaction and generally become focal points for a social realm through the relationships that they are enacting.

This list of issues suggests that a balancing between an embracement and a critical examination of the new mediated sites and networked spaces of performative architecture is called for. There are an un-explored number of potentials as well as risks waiting to be analysed in relation to performative urban architecture as it emerges as a future strategy for place-making in-between architecture and socio-technical systems.

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