

## **Literature Review III**

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### **Social Implications of Technological Developments in Cities**

What do future cities have to offer to their people? What are they capable of taking from people? To answer the latter question, it is useful to consider what opportunities technology offers to different social groups of a society. An inherent contradiction exists in consumer oriented technological development. We need to bear in mind that these kinds of technologies have never acted neutrally in treating different social groups equally in cities.

Stephan Graham, in his book "Splintering Urbanism," has discussed various aspects of such social inequities, some of which have been covered here. Today's wealthier urban spaces are separated by highways from poorer zones. Firstly, CCTV security strategies keep away the homeless or the inappropriate from the giant multifunctional buildings that are replacements of the old public spaces (Stephan Graham 2001). These buildings, which have to serve the profit of their investors, are not meant to increase social sustainability, but rather segregate rich and poor more than before. While the poor hang out with the poor, this gap will exponentially increase (Stephan Graham 2001). Even airports and rail stations have included more leisure activities than serving passengers. Secondly, cars replicate the same story. Car owners stay in their comfort zone and receive information technologies embedded in their vehicle to stay away from pedestrians (Stephan Graham 2001). Thirdly, telecommunication providers tend to cherry-pick their most profitable costumers and parts of the city. That is the reason that Senator Bernie Sanders today opposes the merger of AT&T and Time Warner (Frej 2016). Their merger results in more central power and less service, on average. Finally, even internet is polarizing the world into the connected and the disconnected, two worlds of people: those who understand English, are younger on average, and have more income, and those who do not understand English, are older, and are from a lower class (Stephan Graham 2001).

## **Models of Computational City Management, From past to the Future**

With all of the aforementioned inequities in mind, it becomes clear that the future is not all bright. To have a better future, we need to understand the weaknesses of the imagined landscape of it. Today's city mayors are thirsty to make their cities smarter. What is the history of this smartness in cities? How it has it functioned and been tested before? In 1972, the consultant and cybernetician, Stafford Beer, had been brought to Chile to help Salvador Allende, the Marxist leader of Chile, run an electronic government that would guarantee socialism (Morozov 2014). Beer went there to develop a cybernetic model of government, based on worker participation. Allende wanted to shift companies' production toward social needs and manage product pricing (Morozov 2014). The computers that they had at the time were neither numerous nor powerful enough, so the system collapsed and was not as useful as predicted. Beer did not have access to big data and today's equipment, such as powerful computers, sensory networks, smart phones, and big data. But he predicted, or perhaps started, today's models, which are mainly follow the concept of a smart city.

While "smart city" is a concept that is growing rapidly, it is still not framed accurately. Anthony Townsend defines it as "places where information technology is wielded to address problems old and new." (Townsend 2013). One of the most famous examples of smart city projects is IBM's Rio de Janeiro's management system. The promise of the city's control room, or similar projects by other companies such as Samsung, Cisco, and Intel, is efficiency, security and convenience for the city. The following sections look at their relevant concepts, approaches, and audience or participants, respectively.

### **Concept, Solutionism in Smart Cities**

On one side there are company names and on the other side there are goals and promises. In this section it is argued that they both are problems of the concept of a smart city. The primary problem with these corporate-lead projects, which benefit from today's state of ubiquitous computing, is the extensive privatization of public management and the fact that when a company is controlling the city, there is no guarantee of setting the best goals. Revenue is the dominant factor.

Simply changing the goals, initiators, and process of these black boxes of code and algorithms does not treat the issue in a better way. The fiction of automation has been fantasized enough in ubiquitous computing research. The excitement of access to big data and fast technological development does not solve all of the problems. The paper “Yesterday’s tomorrows: notes on ubiquitous computing’s dominant vision,” by Genevieve Bell and Paul Dourish, helps to establish a better understanding of what the body of our research and practice needs, and is not another version of Weiser’s visions, but rather a version that understands technological conflicts, limits, and culture. The authors’ statement clearly and properly destroys many hopes when they state that “designing such seamless futures will be misleading and dangerous” (Paul Dourish 2007). Urban life, with all of its complexities and contingencies, could not be summarized in an engineered system and, if that is so, something is wrong. As William Mitchel says, “our job is to design the future we want, not to predict its predetermined path” (Jill Conner 2004). By designing deterministic systems of city management, the future becomes brighter.

## **Approach, Quantifying Everything**

Smart city initiatives around the world are optimizing transportation and moving towards more efficiency and sustainability. But beyond the concerns of privacy and ownership of data, there are other serious inherent problems. The danger is in framing the city as an aggregation of variables that could be optimized (Mattern 2015). In other words, risks are present in reducing the city into numbers. The approach however, directly reflects the bigger values behind it. The architect, Rem Koolhaas, points out that the “traditional European values of liberty, equality, and fraternity have been replaced in the 21st century by comfort, security, and sustainability” (Koolhaas 2014).

Even quantitative metrics, like energy use, are not as simple as they seem to be. Sarah Bell points out that we cannot simply monitor energy use with infrared cameras to track buildings’ heat loss; we also have to consider cultural norms, including dress codes, that require men to wear suits in the hottest months of summer, thereby necessitating excessive air conditioning (Bell 2012). While quantitative city management projects, such as Hudson Yard, claim to improve livability and quality of life, there are many unsolved questions, such as “what kind of quality they are able to increase?” (Mattern 2016).

## **Civic Engagements in Today and Future Cities**

Humans can control technology. In the case of cities, culture and people could be the keys; putting them in the right place results in the successful control of technology. Fortunately, there are attempts and projects to make smart cities through smart citizens. “Failure to put people at the center of our schemes for smart cities risks repeating the failed designs of the twentieth century” (Townsend 2013). However, the risk this time is higher because at the end of this century, 80 percent of the world population will live in cities (Townsend 2013).

Projects, such as seeClickFix, that allow people to report and track non-emergency issues anywhere in the world via the internet, have increased civic participation in cities (SeeClickFix 2016). This raises questions about who is contributing to the cities of the future and what are the considered scenarios for people who are not participating? This research is particularly concerned with idiots who, as Jennifer Gabrys defines in *Program Earth*, are “unable to participate in public life” (Gabrys 2016). In “Alien Stuff,” an art project by Krzysztof Wodiczko, the instrument is a story telling platform for immigrants who are separated from society. A prerecorded video at the top, with a loudspeaker and some objects in the middle of handheld device, together help its operators (immigrants) to broadcast their stories of difficulties to the others (Wodiczko 1992). The project criticizes the situation of segregated people and their inability to communicate with others.

In addition to concerns about customers of civic participation, “the form of using participatory media practices are already tools of variously restricted political engagement” (Gabrys 2016). The consideration of citizens as data-nodes, where data gathers by them, or transfers from them to the cloud, already defines a very restricted role for citizens.

## **From City to Public Space**

This research aims to examine the problems of smart cities at the scale of urban space as a lab in which people appear and can be tested. People are direct representatives of their city and David Harvey

argues that “what kind of a city we want cannot be divorced from the question of what kind of people we want to be” (Harvey 2012). Cities directly affect people, and imagining the kind of people who might be the output of a city could be the start point of designing the urban forces. As this research is concerned with marginalized people, looking at their presence and behavior in public space is an opportunity to understand what kind of detailed considerations are useful as a response to the stated problems. Understanding public space and its relationship with citizens in this context is crucial. Classical public space is conceptualized as the ‘space of appearance’ for political action by Hannah Arendt (Arendt 2013). But who has the power to speak in public spaces and who is going to be more empowered or weakened?

Today’s cities are occupied with media. Looking at public spaces without considering urban media forces would not be complete. Social interaction in contemporary cities is highly affected by digital media and less by the physical body of the city. Digital advertising has filled our cities. Artists try to reoccupy public space in their projects by using different mediums for engaging people, as well as representing people’s participation. Projects such as Vectorial Elevation (1999), Amodal Suspension (2003), and Open Air (2012), by Rafael Lorenzo Hemmer, are some examples, as well as projects by many other artists. “Unseen (SEEN-Fruits of your labor),” a project by Omar Khan and Osman Khan, challenges the method of communication between different social groups. The project reveals and broadcasts a message from members of three communities in San Jose’s labor scene--Silicon Valley’s tech workers, undocumented service workers, and outsourced call center workers, to the general public who are looking at their installation in the public plaza (Khan 2006). The project changes the usual social interaction happening in a public space when people use their phones to see the messages on the installation that are not readable by naked eyes, and then show these messages to strangers.

On the other hand, many practical digital projects are moving from labs to cities. LinkNYC and Soofa urban digital platforms are expanding over New York City and Boston, respectively. While they are benefiting from advanced technologies, their presence does not address marginalized people. Scott McQuire describes the potential of media in the contemporary city to become a communicative city. He clarifies the attributes of media in this communicative city. While fixed media platforms certainly have not disappeared, they now benefit from location-awareness and function as nodes situated in relation to more extensive media flows (McQuire 2016). Real-time feedback from many people to many others changes the social experience. Ubiquity is not just about the capacity to do the same thing, but involves

a profound transformation of social practice (McQuire 2016). These are potentials that are not currently at use in their full extent in practical projects.

## **Designing the Future**

As the experimental playground of this design research is a small urban space, its concern lies near the future condition of individuals in such spaces. The paper, “Resistance is futile,” suggests looking at the future of Ubicomp in a different way. Authors analyze the role of science fiction movies on culture to understand how they have, in fact, enriched science. Their case studies on sci-fi movies are different from Weiser’s point of view because of their cultural elements, which show that failures or victories are based on the intersection of future technologies and culture (Paul Dourish 2014). The series, which is broadcasting from Netflix while this research is being conducted, is a similar example to “Resistance is futile” in challenging social implications of technology, wherein the work criticizes today’s technological flows and tendencies by presenting believable dystopias of the near future. Julian Bleecker introduces design fiction as an unlimited method to convey ideas outside of the boundaries of science and engineering (Bleecker 2009). The author argues that fact and fiction are not separable, since today’s fiction supports the production of tomorrow’s fact.

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