Models of Computational City Management

In 1972 the consultant and cybernetician, Stafford Beer had been brought to Chile to help Salvador Allende, Marxist leader of Chile, run an electronic government which 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) Computers that they had at the time were not enough and powerful, the system collapsed and was not 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 called smart city. "Smart cities are 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 city.

Solutionism in Smart Cities

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 because their revenue is the dominant factor. But simply changing the goals and process of these black boxes of code and algorithms, does not treat the issue better. The fiction of automation has been fantasized enough in ubiquitous computing research. Excitement of access to big data and fast technology development does not solve all the problems. The paper "Yesterday's tomorrows: notes on ubiquitous computing's dominant vision" by Genevieve Bell and Paul Dourish helps to understanding that what the body of our research and practice needs, is not another version of Weiser's Visions but is a version that understands technological conflicts, limits and culture. "Designing such seamless futures will be misleading and dangerous." (Paul Dourish 2007) As William Mitchel says "Our job is to design the future we want, not to predict its predetermined path." (Jill Conner 2004)

Social Implications of Technological Development

We can learn from the history that an inherent contradiction exist in consumer oriented technological development and bear in mind that they have never acted neutral for treating different social groups equally in cities. Public spaces are filled with environmental technologies. Jennifer Gabrys revisits Focault's concept of environmentality to remind "How environmental technologies as spatial modes of governance might alter material–political distributions of power and possible modes of subjectification." (Gabrys 2016) 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 which 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 are to segregate rich and poor more than before. (Stephan Graham 2001) While poor hangs out with poor this gap will exponentially increase. 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. (Stephan Graham 2001) And finally, even internet is polarizing the world into connected and disconnected, two worlds of people: who understand English, are on average younger, have more income and people who do not understand English, are older and are lower class. (Stephan Graham 2001)

Problems of Civic Engagements in Today's Cities

Human can control technology. In the case of cities, culture and people could be the keys; putting them in the right place results in a successful control of technology. "'What kind of a city we want cannot be divorced from the question of what kind of people we want to be'-Robert Park. Fortunately, there are attempts and projects to make smart city 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) Only 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) The question that remains is that who is contributing to the city of 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 "is someone unable to participate in public life". (Gabrys 2016) In addition to concerns about customers of civic participation, the form of using participatory media practices are already tools of variously restricted political engagement. "The transformation of citizens to data-gathering nodes potentially focuses the complexity of civic action toward a relatively reductive if legible set of actions." (Gabrys 2016)

Smart City's Limits

What smart city initiatives around the world are doing in regards with optimization of transportation and moving towards more efficiency and sustainability is helpful. 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 that is reducing the city into numbers. The architect, Rem Koolhaas points out that "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 can't 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 and thereby necessitate excessive air conditioning. (Bell 2012) While the quantitative city management projects such as Hudson Yard claim to improve livability and quality of life there are many unsolved question such as "what kind of quality they are able to increase?" (Mattern 2016)

Intervention in Public Space

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 relation to citizens in this context is crucial. Classical public space is conceptualized as the 'space of appearance' for political action by Hannah Arendt. (Arendt 2013) Today' cities are occupied with media. LinkNYC and Soofa urban digital platforms are expanding over New York City and Boston respectively. While they are benefiting from advance technologies, their presence does not address marginalized people. Contemporary processes of social interaction are being shaped less by traditional modes of urban boundary formation. (McQuire 2016) Scott McQuire describes the potential of media in the contemporary city in becoming a 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 to many 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 which are not currently at use in their full extent in practical projects.

Designing the Future

"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 failures or victories are based on the intersection of future technologies and culture. (Paul Dourish 2014) Julian Bleecker introduces design fiction as an unlimited method to convey ideas outside 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.

Bibliography

Arendt, Hannah. 2013. *The human condition*: University of Chicago Press.

Bell, Sarah. 2012. "System City: Urban Amplificaiton and Inefficient Engineering."

Bleecker, Julian. 2009. Design Fiction: A short essay on design, science, fact and fiction.

Gabrys, Jennifer. 2016. *Program Earth: Environmental Sensing Technology and the Making of a ComputationalPlanet*: University of Minnesota.

Jill Conner, William J. Mitchell. 2004. *e-topia: Urban Life, Jim—But Not As We Know It.*

Koolhaas, Rem. 2014. My thoughts on the smart city. *Digital Minds for a New Europe*.

Mattern, Shannon. 2015. Mission Control: A History of the Urban Dashboard.

Mattern, Shannon. 2016. Instrumental City: The View from Hudson Yards, circa 2019.

McQuire, Scott. 2016. *Geomedia: Networked Cities and the Future of Public Space*: Polity Press.

Morozov, Evgeny. 2014. The Planning Machine: Project Cybersyn and the origins of the Big Data nation.

Paul Dourish, Bell Genevieve. 2007. "Yesterday's tomorrows: notes on ubiquitous computing's dominant vision."." Personal and Ubiquitous Computing.

Paul Dourish, Bell Genevieve. 2014. ""“Resistance is futile”: reading science fiction alongside ubiquitous computing." " Personal and Ubiquitous Computing.

SeeClickFix. 2016. "How it Works." http://en.seeclickfix.com/how-it-works.

Stephan Graham, Simon Marvin. 2001. *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition*: Routledge.

Townsend, Anthony M. 2013. *Smart cities: Big data, civic hackers, and the quest for a new utopia*: WW Norton & Company, .