LOOKING UP WHILE LOOKING DOWN: MOBILE TECHNOLOGIES AS AN ESSENTIAL INTERFACE TO THE GEOGRAPHY OF OUR CITY.

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INTRODUCTION

This paper examines the relationships between mobile technologies and a city environment. A mediated approach to architecture and planning will be discussed, with a particular focus on how these technologies can complement and enhance the movement of people in the city. With a wealth of information and opportunities for engagement now at our fingertips through the use of mobile internet enabled devices, we are presented with the ability to add an exciting new layer to the geography of our cities.

Navigating the digital

While the buildings and travel networks expand and grow around us, so the virtual world also develops. With so much of our daily lives now affected by and in rhythm with the virtual world, it follows that the physical world must accommodate the changes in our behaviours and requirements that this elicits. Elizabeth Grosz suggests that the most significant effect of the increased use of the chip and screen in day to day life is the way that our "perceptions of materiality, space, and information"[1] are changed. Each of these aspects are inherently linked to our purpose, use and navigation of the city. How we perceive space and distance will impact decisions about transport, about comfort and security. Grosz asserts that the chip and screen "is bound directly, or indirectly to affect how we understand architecture, habitation, and the built environment" (ibid).

Taking navigation as an example, developments in technology have fundamentally changed the way many people encounter and explore the city. One behaviour in particular has inspired this paper, namely the way that people look down more than they do up. This behaviour is beautifully illustrated in the anonymous Tumblr blog entitled "We Never Look Up"[2] which is a photographic account of society's preoccupation with hand-held devices. The pictures show hunched over figures isolating themselves in their own kinesphere, oblivious to what is going on around them. Amongst the more poignant images there is a couple sat across from one another at a table in a café, each with their eyes and bodies focused intently on their phones. Another photograph depicts a man in an art gallery, his back turned to a sculpture hunched over reading his phone.

While these images may suggest a closed minded and unsociable aspect to mobile technology, there is an alternative viewpoint. Our mobile devices can enhance our experiences and many museums and galleries are beginning to make use of this through QR (quick response) code links and augmented reality apps. Augmented reality often uses GPS location or image recognition to display an alternative

view or add objects to a camera view. The Museum of London has developed an app called Streetmuseum which allows users to hold their device up to a London street and view the street as it would have been in the past[3]. The multi-functionality of our hand-held devices are providing more opportunities for their use and in turn affecting our physical encounters with the world. The implications of this are perhaps most explicit in changes in navigation.
We look down…

Into our phones, into tablets, at sat-navs.

Always looking at information in a small frame.

Navigation is now a word commonly associated with movement through web spaces. The architecture of a website is crucial to how and where it can be viewed and the ease to which it can be used. The success or failure of this architecture is often most evident in the application of Satellite Navigation or "Sat-Nav". While we are finding our feet in the virtual architecture, we try to relate the information found to the real world. Two worlds collide – sometimes more effectively than others – but for many of us in the twenty-first century, we look down into our devices in order to navigate. When visiting a new city, our first instinct is to find a Google map or type the post-code into a Garmin. We stare intently at these devices, putting our trust in them and are often left feeling vulnerable or angry when the virtual world does not fully prepare us for the real one!

This virtual navigation trend is completely at odds with how I was taught to navigate and how I learned to explore spaces. I was taught to read the map. The use of the verb to "read" is important. We don't "read" a Sat-Nav, we "follow" it. The former suggests an examination of information and interpretation, while 'follow' implies an unquestioning obedience. The change in verb illustrates the significant change in behaviour. The traditional map provides a representation of the area and relates strongly to the environment. Finding your way using a map involves reading the symbols and using them to position yourself within the real environment. You are required to identify features of the landscape or landmarks and work out where you are, where you want to go and how you are going to get there. This type of navigation is often referred to as 'wayfinding' and it causes you to be continually present and focused on looking up and looking around as well as referencing the map.

Compare this to the use of the Sat-Nav and you find we look down and keep looking down and looking at the blue arrow or other icon that tells us where we are. And it is because the icon tracks our location, meaning we don't perceive the need to, that "paying attention is no longer as present in the user"[4]. The following action of Sat-Nav use produces a very different behaviour and condition of awareness to that of wayfinding. Hansen further articulates the difference, stating that navigation (using the point A to point B approach of Sat-Navs) follows "a predefined sequence" while wayfinding creates "a sequence based on a number of selections" (ibid). Following a Sat-Nav has the potential to isolate the user from the environment, keeping them looking down into the device.
In choreographic use of and exploration of space these ideas also resonate. When examining the choreographic methodologies of performances, a set choreography can be placed into a space (following a predefined sequence, thus resonating with the Sat Nav) – most often experienced when a piece of dance is toured. Alternatively movement can be devised within and in response to a space, a methodology which (similar to wayfinding) offers opportunities for decision making and a heightened awareness of the environment.

The example of navigation sets out very clearly potential problems of using the virtual world to inform our encounters with the "real" world. However we cannot continue to consider these as discrete when business and social use of the internet continues to grow. The popularity of mobile devices as tools for communication, information sharing and social interaction indicates that the material environment – including the built environment – must learn to accommodate and work with these technologies.

The "architecture" of the city is no longer simply bricks and mortar, but also levels and layers of content, providing information (such as mapping or local facilities), alternative views, historical context or even role-playing. These layers build a further "virtual" dimension into our cities. The challenge facing those working in the built environment is how to incorporate the virtual in a way that is inclusive, practical and beneficial.

Michel de Certeau discussed two perspectives of the city in the text "The Practice of Everyday Life"[5] which Hansen articulates as "from outside through the map or from within as a pedestrian"[6]. The developing layer of mediated content and interaction in our cities introduces another perspective which, although somehow intertwined with Certeau's embedded and elevated views, doesn't sit comfortably within either category. A "virtual" view of the city suggests a completely separate world that sits apart from the real, a charlatan if you will. Discussions of virtual reality in the late nineteen eighties and early nineties when the technology first became mainstream seem to focus on a utopian ideal of a separate world space. However this is not what virtual and interactive media has provided for the city. While some do still choose to use the web and gaming technologies as a place to escape to, the mainstream impact of web and information technologies has been in areas that assist or engage with our everyday lives.

Lev Manovich suggests that there are currently three main technological applications; "surveillance, cellspace, electronic displays"[7] and that these applications "make physical space into a dataspace: extracting data from it (surveillance) or augmenting it with data (cellspace, computer displays)" (ibid). The notion of a "dataspace" suits the current focus of technology and its very nature. Particularly in the city where our needs are often information driven (locating facilities, conducting business, engaging socially), the dataspace pervades every street and building through mobile devices as well as installations. The prevalence of mobile devices presents the dataspace with an even more global reach; almost Certeaulian elevated status as we are no longer dependent on wired, physical links between points. Wi-Fi and Bluetooth technologies are non-linear and have an omnidirectional reach. However the dataspace is not restricted to or defined by its reach and elevated view, it delivers an individual experience as well. Within the microcosm of the personal mobile device the user encounters the dataspace in his or her preferred manner. The development of the graphical user interface (GUI) and particularly touch related control of these interfaces enables the dataspace to become personal, adaptable and accessible.

Designing with the dataspace

With the emergence of the dataspace comes a whole new challenge for those designing and planning for the city. How can our built and designed spaces accommodate and integrate the dataspace which is both global and personal in a way that works alongside our "real" spaces rather than continuing this

trend of everybody looking down? How can the dataspace be incorporated into the experience of the city?

Drawing on the previous discussion of the Sat Nav and Wayfinding paradigms, the dataspace can certainly be responded to and worked with (choreographed if you like) using the same principles. On a personal level, wayfinding encourages a personal response to the dataspace while the macro architecture of the World Wide Web provides a clear route map for following to a desired destination. Manovich talks of an "augmented space" which is "the physical space overlaid with dynamically changing information"[8]. The most obvious example of this is the use of large display screens on buildings. But there is the potential for this augmented space to include the mobile devices, wearable technology and built in technology that is beginning to fill our daily lives.

Mobile technologies in particular can provide an essential interface and a new way for us to navigate the architecture of our city. They can offer different experiences and opportunities in navigation from Sat-Nav or traditional maps which use cartographic symbolism and representation. Through digitally embedded opportunities for interaction, digital "tactics" (to use Certeau's term) could enable the user to "escape the control of material and abstract institutions and create their own interpretations or writings of the city"[9]. By integrating the dataspace into design the personal experience of the city can become even more tailored rather than generic. Advertising companies are already taking advantage of the personalised dataspace. You need only to look at the relationship of the banner ads you see to your browsing history to see this in action. As we design spaces and encounters within our cities, can we find ways to embrace and cultivate not only the personal dataspace, but also the social dataspace? Though it can be argued that the microcosm that the personal device creates is an alienating space, there are ways that these personal dataspaces might be choreographed to provide opportunities for social or business encounters for example.

Virtual Reality (VR), Augmented Reality (AR) and applications with a similar interactive approach can open up new methods and methodologies in engagement with the city through targeted content. They also provide a new creative medium for artists across many disciplines including, but not limited to, film, gaming, dance and performance. Randall Walser saw the potential for mediated spaces suggesting that; "Print and radio tell; stage and film show; cyberspace embodies … The filmmaker says, "Look, I'll show you." The spacemaker says, "Here, I'll help you discover.""[10]

The opportunity for the spacemaker to facilitate discovery is an exciting one and through mobile technologies and the dataspace we have the tools to create spaces that are multidimensional, not just physically, but also digitally encouraging layers of experience where the visitor may simply pass through or choose to engage with the space at a different level. These mediated spaces allow for dissemination of multiple visual and information layers, a truly augmented space in Manovich's definition.

The many spaces within the city can be discovered or augmented through technology. Shelley McNamara and Yvonne Farrell assert that "What we build as Architects is in fact the New Geography"[11], drawing on notions of persistence of the built environment and legacy. In the growing area of Information Architecture we see a "new geography" and alternative opportunities for navigation evolving in the content and usage of the World Wide Web. Furthermore, as we begin to better understand the ways information within the dataspace can travel, the planner has greater tools at

their disposal for choreography of movement within the city. GPS enabled apps allow for the tracking of crowd movement, authorised persons and even the occupants of a building. Utilitarian uses of this information include development of safety and security provisions and energy saving procedures. The dataspace is directly informing and changing the physical space and as we further understand and explore the potential uses of this pervasive dataspace we can build a more integrated relationship between the spaces of our cities.

The language and nature of this relationship is constantly shifting. The bidirectional nature of communications technology has expanded exponentially with the advent of social media such as Twitter and Facebook. Utilising a multi-platform approach advertising and promotional campaigns have been able to reach an even larger audience and interact with them receiving instant feedback, interest and responses. As designers, being able to respond to these opportunities for development and cultivating an explorative attitude enables the users of the city to contribute and feed the experience of our spaces. If we fail to embrace and direct purpose of these opportunities we risk our spaces becoming out of sync or even irrelevant to our users. Elizabeth Grosz suggests that;

"The Net not only speeds up and enhances information storage and retrieval and communications structures, but it threatens to disrupt or reconfigure the very nature of information, communication, and the types of social interaction and movement they require." [12]

As a choreographic artist, my own interest and engagement with mobile devices has helped me devise a teaching strategy that challenges my students' ideas about choreography and movement. Through analysis of the small screen and mobile internet as a performance space, notions of perspective, space, time and privacy can be discussed. Pertinent issues both in personal and social spheres. What the mobile device seems to provide is an opportunity to explore the dataspace through a lens which allows both a micro (personal) and macro (social) viewpoint.

In the summer of 2013, I worked with a diverse group of dancers on developing choreography harnessing the small screen and the use of mobile technologies. The resulting works presented an array of different experiences and means of connecting with the environment and movement through the mobile device. The process began with an exploration of the issues and themes that surfaced when considering the multifunctional use of the mobile device. The key issues raised included privacy, information, entertainment and time. Each issue was investigated by a different group. How these projects developed illustrates the various opportunities the dataspace provides for engagement and exploration at a macro (social) and micro (personal) viewpoint. One group investigated a way to portray the history of a particular room on our University campus. The room E124 had been a command centre during the D-Day landings and the choreographic response by the group involved dense research coupled with a personal response – a marriage of macro and micro viewpoints.

The project culminated in an interactive space installation where visitors were invited to explore - and more importantly experience – the research. The space was laid out as though it were the remnants of an explosion. Scattered papers, photographs and objects: suggestions of the space that had been. Among the debris were a number of QR (Quick Response) codes which linked to sound-bites, images and movement footage created by the group, which visitors were encouraged to scan and discover through their mobile devices. When the space was full of visitors, if you stepped back for a moment, the combined effect of all the mobile phones playing back the sound bites created a dense soundscape

which was incredibly evocative. When you yourself were engaging with the codes and the information, the nature of the small screen and the handheld device made the information somehow more intimate and invited a more personal response. It is easy to see how such an interactive environment might be used in a museum or exhibition environment. However, the concept of creating a macro and micro dataspace with the potential to offer social and personal experiences of a space, topic or entertainment can be carried across into the design of other spaces within our city environment.

In its ability to be both personal and social, the dataspace creates a unique opportunity for both engaging and objective relationships. I would like to consider this property as a development of Certeau's embedded and elevated views. The dataspace is primarily concerned with communication – it exists as transference of information – and as such the perspectives available to us dictate the nature of our relationship with it. Engaging and objective viewpoints echo the embedded and elevated but make concrete the existence of an information based relationship. And as the technologies associated with the dataspace develop, Grosz's belief that, "It is central to the future of architecture that the question of time, change, and emergence become more integral to the process of design and construction"[13] becomes all the more pertinent.

Manovich suggests that one of the largest issues with creating a completely augmented space is how to "incorporate different symbolic systems in one spatial construction"[14]. The multiple languages and semiotic paradigms that are present in multi-media and multi-period spaces are potentially conflicting. But perhaps rather than seeking to find one overarching language we should be accepting of the different times and spaces that collide in our city and seek instead to facilitate "conversations" between them. Some of us are more at home in a large space than a small one; some of us are happier using text than Skype. Could the key to a mediated city lie in acknowledging the prevalence of not one but several 'spaces' and developing the interfaces between them? In which case I would suggest that mobile technologies are perfectly placed to act as an interface. Mediating between the social, business and communications requirements of our lives, these devices are capable of navigating the large and small journeys, conveying information about locations and providing a window of access to data, supporting our knowledge and enjoyment.

In conclusion, mobile technologies and their associated information architecture are not only utilitarian in purpose, but can also help us to explore and discover spaces, be they physical, social, temporal or personal, through a mediated approach to the spaces within our cityscape. Through consideration of the engaging and objective experiences of the dataspace, as illustrated in my own work with choreography students, an environment (or perhaps a geography?) may be created in which the movement of the space-user can be affected by, or may itself lead, changes in the data. Thus making the space an environment that may be experienced as well as observed, found as well as navigated. And through the discussions that this exposes, promote a more sociable engagement with the mediated city than the constant looking down.

ENDNOTES

[1] Elizabeth Grosz, *Architecture from the Outside* (Massachusetts: MIT Press, 2002), 76

[2] "We never look up". Accessed January 9, 2014, http://weneverlookup.tumblr.com

[3] Museum of London. "StreetMuseum" App. Accessed January 9, 2014,

http://www.museumoflondon.org.uk/Resources/app/you-are-here-app/home.html

[4] Lone Koefoed Hansen, "Lost in Location – on how (not) to situate aliens", *Internnational Journal of Performance Arts and Digital Media* 5:1 (2009): 10.

[5] Michel de Certeau, *The Practice of Everyday Life,* trans. Steven Rendall (Berkeley, California: University of California Press, 2002 [1984])

[6] Hansen, *Lost in Location*, 5.

[7] Lev Manovich, "The Poetics of Augmented Space", *Visual Communication*, 5:2 (2006), p220

[8] Manovich, *The Poetics of Augmented Space*, 223

[9] Rune Huvendick Jensen and Tau Ulv Lenskjold cited in Hansen, *Lost in Location,* 7

[10] Randal Walser cited by Howard Rhinegold, *Virtual Reality, (*New York: Summit Books,1991).

[11] Yvonne Farrell and Shelley McNamara, "Architecture as the New Geography", Yale School of Architecture public lecture series, September 8, 2011. Accessed January 9, 2014,

http://www.youtube.com/watch?v=hPLSTtwh9bw

[12] Grosz, *Architecture from the Outside*, 86

[13] Grosz, *Architecture from the Outside*, XiX

[14] Manovich, *The Poetics of Augmented Space*, 231

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BIBLIOGRAPHY

Certeau, Michel de. *The Practice of Everyday Life,* translated by Steven Rendall, Berkeley, California: University of California Press, 2002 [1984].

Farrell, Yvonne and McNamara, Shelley. "Architecture as the New Geography", Yale School of Architecture public lecture series, September 8, 2011. Accessed January 9, 2014,

http://www.youtube.com/watch?v=hPLSTtwh9bw

Grosz, Elizabeth. *Architecture from the Outside,* Massachusetts: MIT Press, 2002.

Hansen, Lone Koefoed. "Lost in Location – on how (not) to situate aliens", *International Journal of Performance Arts and Digital Media* 5:1 (2009): 3-22

Manovich, Lev. "The Poetics of Augmented Space", *Visual Communication*, 5:2 (2006): 219-240

Museum of London. "StreetMuseum" App. Accessed January 9, 2014,

http://www.museumoflondon.org.uk/Resources/app/you-are-here-app/home.html

Tumblr, "We never look up". Accessed January 9, 2014, http://weneverlookup.tumblr.com

Walser, Randall cited by Howard Rhinegold, *Virtual Reality,* New York: Summit Books,1991.