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Looking at the City Through Digitally-Tainted Glasses

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1. Introduction

As user-generated content and location-based social networks are increasingly becoming part of our day-to-day life, there is a shift in the way we are experiencing both familiar and new places. Digital content adds a new layer to the information we already have, or are acquiring through our senses as we move through urban environments. Through blogs, tweets, photos, Wikipedia articles, annotations made to places on maps and on location-based social networks, reviews on sites like Trip Advisor, we are preparing ourselves for travelling to new places or changing our perspective on familiar ones. Besides the official discourse about a place, there are plenty of other voices that make themselves heard through digital media, augmenting places with stories, experiences, reviews and tips.

In this paper, urban spaces are regarded from an interaction design perspective, looking at two categories of mobile actors, locals and visitors, in an attempt to understand (1) what are the circumstances that motivate people to create and share digital content in relation to specific places within a city, and (2) how is this content consumed on the move, using location-aware mobile devices. In doing this, we look at today's mobile actors whose movement and interaction with the city are augmented with an "additional digital overlay" (Ciolfi, Fitzpatrick, Bannon, 2008).

2. Case Study

Our study focuses on an Irish city severely affected by the current recession and carrying the burden of a negative reputation fuelled by national printed and audio-visual media. Its history, academic life, entrepreneurial successes, sports and cultural scene seem to be all less interesting for some than crime, unemployment and drug feuds. However, for those who rely on digital media (and especially on social media) for information, the image is quite different.

Connected Limerick started in 2010 as an initiative meant to reflect on the relationship between the city and its "digital double" (or additional digital overlay). We invited individuals, organizations and communities involved in weaving this digital double to reflect together on how this content can be made more visible and more accessible to locals and visitors. This initiative was the starting point for our study and opened a new perspective on user-generated content related to Limerick city as a trigger for serendipitous encounters, in connection with various online social networks.

While reflecting on urban spaces as places, the Goffman-inspired presentation of place - as the relationship between the nature and the appearance of a place - of Sutko and da Souza e Silva (2011) drew our attention to what the digital dimension adds to the appearance of a place. A place means different things to different people, so it is likely that no unique package of digital content related to a place would satisfy the needs of every mobile user.

3. Proposition

The existing technologies support automatic geotagging of user-generated content. Some of this content is relevant for the place where it was created, some other could have been created anywhere else. Place-related content is scattered around between various mapping and recommendation services, just like social connections are scattered across various social networks, making it very complicated for the user to access it on the go. For each user, "the urban environment is constructed through perceptions of nearby information and people" (Gordon and De Souza e Silva, 2011).

The current direction of our study is an exploration on how information about specific places could be aggregated across several platforms and made available on mobile devices in those very specific places (or triggered by geographic coordinates), taking into account user profiles and their social connections. For this purpose, we are planning to use the type of mobile methods recommended by Büscher et al (2010): 'moving along with' members of the public likely to be touched by technology, 'moving in' with prototype technologies, and 'being moved' by experiences, observations and conversations that arise along the way.

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Contextualizing (un)sustainable mobility practices: A Case Study of Dublin City

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It is widely acknowledged that the transportation sector is responsible for a major contribution to global warming and climate change. Transport is one of the most significant sources of un-sustainability in urban areas, which is mainly a consequence of a growing preference for the use of private cars. Tackling private car use in our cities is seen therefore as a priority in the process of achieving urban sustainability and it now represents a principal matter of concern for planners and policy-makers. However, many approaches are generally aimed at the formal, structural elements of the city (i.e. 'compact city' concept), with little attention being paid to the city users. This project argues that if cities are to build the resilience needed to cope with global change their inhabitants must be at the centre of such process, which in turn brings to a need for innovative approaches to planning and policy making. The paper presents interim findings from an ongoing 4-year research project (commenced spring 2010) having Dublin, Ireland, as study base. The overall aim of the project is to investigate a user-focused, grassroots approach to sustainable urban mobility.

A mixed-method approach is adopted throughout the project, which includes: survey with sample population to identify the nature and spatial arrangement of current mobility patterns; and in-depth qualitative investigation to explore the spatial (i.e. urban morphology) and the non-spatial (i.e. social, cultural and institutional) context for people's perceptions, attitudes and motivations for the ways in which they navigate and interact with the city in their everyday lives. The methods employed in this project are drawn from various disciplines such as urban studies, human geography, social sciences and ethnography, including qualitative GIS mapping and GPS tracking. The study also explores the benefits and limitations of using open source mapping tools and social media as a potential powerful grassroots medium, which could bring to better, more transparent and more informed decisions in relation to planning and policy-making aimed at sustainable mobility in our cities.

This paper focuses on the rationale behind this methodological approach, which is aimed at revealing the complex nature of urban inhabitants' mobility practices, and presents the background to this approach together with interim findings. The interim results provide an overview of the broader context of people's individual mobility practices (walking, cycling, driving) by drawing on the perspectives of the city as experienced and constituted by the participants through the lenses of their interactions with its environment in their everyday lives. The paper also considers how looking at everyday mobility practices from the perspective of their 'practitioners' could contribute to a better understanding of the complexities of cities. This is explored in the context in which, ultimately, such grassroots approaches may be the key to the resilient cities of tomorrow.

Mediated Exchange: Technological Enframing in Study Abroad

Bishop, Sarah

Study abroad programs are becoming increasingly popular. The Institute of International Education reported last year that 260,327 American students studied abroad for academic credit during the 2009-2010 school year—showing an increase of more than double the number of students who studied abroad ten years before (IIA Open Doors Data, 2010). While these trips are often heralded for their ability to give students a "first-hand" look at another culture, increase student independency, and provide an greater appreciation of multiculturalism, they are rarely critiqued. Because of this lack, it is currently difficult to determine the effect these programs have on the cultural ideologies of the students who participate in them. Only through continued thorough examination might this effect become more clear. Multiple technologies accompany the study abroad experience, providing a material starting point for an examination of students' interactions with educational mobility. In an effort to grasp the



means through which technology constructs and perpetuates study abroad narratives, this chronological analysis first examines the preparatory literature dispersed by exchange programs, next, analyzes how some of the technologies that accompany the traveling process mediate the way students interact with the localities they visit during their travel, and finally, explores the digital debriefing tools available to returning students.

Before a student leaves for a trip abroad, (s)he may encounter messages like, “Expose yourself to the world,” “Studying abroad is one of the most exciting opportunities available to you,” “Form friendships with host nationals, as many will be sympathetic, understanding, and open to discussion,” “Live abroad and see the world in a whole new way. You will get a REAL EDUCATION by living in the community and learning a new language and culture” (StudyAbroad.com, UPenn Abroad, The Ohio State University Office of International Affairs, California State University International Programs, emphasis original). These messages may alter the student’s expectations significantly. During the trip itself, a student will utilize technologies, such as the airplane, passport and camera, to make sense of where (s)he belongs and to situate him/herself accordingly. The significance of these technologies lies in their ability to chronologically constrain a travel experience, maintain cosmopolitan distance between traveler and destination, and foster the framing of the experience as a spectacle. After the travel has taken place, the student may perpetuate the kinds of expectations for the experience that (s)he encountered his/herself by posting pictures and/or a testimonial on the program’s website that subsequent academic sojourners will view during the preparation processes for their own travel. From beginning to “end,” the technology-ridden study abroad process represents a manifestation of Heidegger’s notion of technological enframing, in that these media perpetuate and sustain a certain “worldview” of what it means to travel. Though not uncharted academic territory, the study abroad experience is almost never studied from a mediated communication perspective. Further, while students who sojourn abroad almost inevitably encounter and utilize several forms of technology to prepare, plan for, and remember their travels, researchers often ignore these aspects of the process in favor of a focus on the academic and cultural content of the trip. As a result, little academic writing exists that addresses the possibility that the technologies that accompany study abroad travel may frame not only students’ travel experiences, but also their perceptions of their societal positions and identities within cultures other than their own. This study seeks not to fulfill that lack in its entirety, but to spur additional dialogue about the means through which technologies change the ways in which individuals think about, experience, and talk about travel.

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Audio-Mobile: Eco-territories, cell phones, and locative media

Chapman, Owen

The term "eco-territories" is used by the city of Montreal to identify important urban natural spaces that have not been designated as parkland. These zones are traversed by movement at multiple levels. They are hybrid,

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impure, and oft-times contested territories that are home to a variety of species, a range of resilient vegetation, as well as human residences and urban or industrial developments. The Audio-Mobile research-creation project uses cell phones to gather GPS-tagged audio field recordings of such locations. Sounds collected are processed into "sample-based" compositions and also catalogued and visualized using Google Maps. I will discuss and showcase sound maps and creative works involving two of the eco-territories we have chosen for our team-based study: the St. Jacques Escarpment in Montreal, Quebec and Harbour Landing on the edge of Regina, Saskatchewan. Ethical and methodological considerations around the practice of sound mapping will be raised. Our team has also developed an "Audio-Mobile app" for the iPhone which I will briefly demonstrate.

Mobile media, and especially cell phones, are a prevalent theme for mobility studies in terms of how they connect or disconnect users from the environments through which they move (Beer 2010, Bull 2004, Sheller and Urry 2007). Audio-Mobile contributes to the field of "soundscape" studies by exemplifying new directions for recording and composition. In an implicit critique of Murray Schafer's concepts of the "schizophonic" and "lo-fi" (urban) vs "hi-fi" (rural) soundscapes (Schafer 1977), I follow authors like Arkette (2004), and McCartney (2010) who call for a re-evaluation of the possibilities and parameters of soundscape studies. Audio-Mobile is also relevant to studies of mash-up culture in hip hop, pop and electronic music, as these genres are referenced in the compositions produced, employing an alternative practice of "sampling"—i.e., from field recordings as opposed to commercial, copyrighted material (Rose 1994, Serazio 2008).

How does one instigate an awareness of the need to protect and preserve such micro-territories from neglect and dumping? By engaging citizens in projects that respectfully highlight the intersections between human and non-human in eco-territories, at the same time as transmitting new knowledge around the digital media potential of mobile devices, Audio-Mobile seeks to act as a catalyst for enriching public discourse on these issues. The project investigates the overlap of the dichotomous, conflictual binaries that delimit such hybrid spaces, existing both within and in relation to urban sprawl. Audio-Mobile also contributes to dialogue around emergent practices of mobile music making and cellphone audio performance (Essl and Rohs 2009, Gopinath 2005) as well as locative media (Galloway and Ward 2006, Hemment 2006) and experiments in critical cartography. As Crampton and Krygier (2006) identify, critical cartography is comprised of a "one-two punch" of new imaginative and/or artistic mapping practices combined with a theoretical critique of relations of power.

While many contemporary audio technologies are portable (i.e., laptops, mixers, microphones, etc.), they are not "mobile" in that they are not carried with the user at all times, available in all circumstances. Cell phones with built-in GPS and audio functions represent new opportunities in terms of spontaneous field recording and production applications. These new opportunities are not only creation-based—they allow for tactical, tangible research into the political, technological and cultural economies in which mobile media technologies are embedded and continuously redefined.

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Zombies Come to Town: Location-Content Awareness Mobile Media Practice on a Community Tagging Game

Chen, Yi-Fan and Torres, Alfredo

Research shows that more and more people use their mobile media to find location information. Although Americans are not used to sharing their locations via the social networking site yet, a recent PEW study shows that there is 28% of Americans use their devices to find directions or recommended their places for their friends, especially for those who own a smart phone (Zickuhr & Smith, 2011). Moreover, prior research reports that mobile media users have shared their locations to their close friends and family members in both emergency situations and in everyday life. For example, Cohen, Lemish and Schejter (2008) study reported that Israeli had highest mobile phone uses near the locations of the terror attacks from a real time data. On the other hand, Humphreys (2007) found people shared their locations to their friends in everyday life.

The current study is trying to understand location sharing patterns and motivations via mobile media. In other words, the study is interested in understanding why, what, and to whom people want to share their locations and information. In order to answer the research questions, the research is studying mobile media uses from a community tagging game, Survive Norfolk, from Norfolk, Virginia.

Survive Norfolk is an adult version of the childhood game of tag which was started in 2010 by a young lady named Whitney Metzger who just wanted to have some fun with her friends. She started a Facebook event page inviting about 100 of her friends to dress up as zombies and play tag. She left the invitation open and within about 3 weeks the event had gone viral and she had 10,000 people committed to participating. The city of Norfolk quickly interceded and the game went off with just slightly over 1,500 people playing and about as many participating. The game garnered national attention and quite a bit of money was raised for charity. During the game in the last year, some participants incorporated their mobile media into the game. They texted, called and checked their mobile media message during the game.

In this study, Kenneth Gergen's (2002) concept of "absent presence," which is the situation in which people are psychologically present in a place but also render absent at the same time provides a theoretical framework to understand why, what and to whom people share their locations via mobile media during the game. Gergen (2003) argued that the mobile phone could provide people with more social connectivity because they allowed participants with face-to-face groups to keep in touch with other remote groups at the same time. During the games, participants invited their friends and family members both who were playing the game at the same time and who were unable to physical present at the game to join the game with them via their mobile devices whereas they might use the device to send the misleading information to other players in order to win the game.

This year's event was played on the Oct 29th. The researchers have conducted a quick preliminary survey with 8 questions right after the game. There were 452 people who participated in the survey. The result shows that 198 participants reported that they have used their mobile devices to 'check in' to the locations or to share their locations with their friends, family members as well as other people. Survey data will be further analyzed. This study will use a combination of qualitative and quantitative research approaches. Several in-depth and focus group interviews will also be conducted over the next few months. Researchers will recruit interview participants from the Survive Norfolk Facebook fan page and send interview invitations to the Survive Norfolk mailing list as well as to the Twitter users who have used the Twitter Hashtag "#SNorfolk". Data will be compared and contrasted with the preliminary findings.

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It's all work and some play: Mobile Phones in the Globalized Migration Context

Chib, Arul; Aricat, Rajiv and Ling, Richard

Cross-border migrant movements warrant a situation in which information is sought by migrants not only from the home-country alone, but also from the host-country in which they work and reside. Although much of the communications involved is for the maintenance of relationships (Law & Peng, 2008) and dealing with loss and loneliness (Lim & Thomas, 2010), information flows in local networks help migrants better adapt to the host society, improving professional careers and developing business networks (Qiu, 2009). For international migrants in the organized sectors like construction, oil refining or shipyard, locative media portend a different meaning. Unlike white-collar workers who have simultaneous access to various sources of information during work, and unlike low-skilled workers (maids and sales staff) who do not need much work-related information instantaneously, semi-skilled workers require work-related information on the fly.

We conducted in-depth interviews with 23 industrial labor migrants belonging to a sub-ethnic Indian community in Singapore to probe how they gathered information for adaptation to host society (personal/social lives) and for professional advancement (livelihoods) (Donner, 2009). Findings showed that mobile phones with advanced features like Internet allowed the workers to network with co-ethnics in the host society, as a result of which they could acquire new skills to advance their career. Some are members of faith-based and voluntary organizations in the host society, which ensured the availability of emotional and social support in the new country in the time of need as well as their spiritual well-being. Low-end mobile phones and attractive mobile pre-paid packages helped them navigate between home and host cultures with much ease. The young respondents, who showed greater enthusiasm in switching to advanced mobile services like mobile Internet, wanted to compensate for their limited formal education by new skills using mobile as a medium.

Incidents narrated by the respondents suggest that mobile phones blurred the boundaries between their personal and professional lives (Donner, 2009): if workers found themselves caught up at the punching gate owing to some technical glitch, they called their boss to get through, an on-site worker made friends with the storekeeper at the worksite and called him over phone when additional material was required at his site, ensuring continuity of work, improving productivity, and reducing the wastage of time. Others used personal phones to make work related calls and did not care for being compensated for the use. Often a call related to work was initiated or terminated by asking about personal matters and friendship was renewed after a professional call. Yet, unlike many other communities, the migrants wanted to demarcate the personal from the professional, as they thought the calls from family should not "disturb" them during their work. Some kept their phones in their room and attended to it only after the end of the day's work and many others hesitated to attend calls from the family, unless they are very important, during work.

While equitable development frameworks go a long way in understanding the impact of mobile phones among migrant population, the different ways in which this population has appropriated the technology often defy deterministic theories. Owing to limited technology literacy and lack of financial resources migrants are often at the losing side of the 'digital divide'. Yet, the divide is slowly bridging partly due to the piggybacking of Internet on mobile, which follows the peripatetic but immobile migrant user in his lives and livelihoods. ICT studies have long shunned plotting the direct correlation between mobile use and the development achieved on ground; our study substantiates that there is much to be appraised outside the socio-developmental motivations of mobile phones.

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Intersecting (im)mobilities: transnational trainspace in the suburbs of Chicago

Cidell, Julie

The fluidity and mobility of the twenty-first century are grounded in physical infrastructure such as airports and train stations, but also on the routes along which people and goods travel. Within recent work in mobilities on the meanings, practices, and experiences of flying, driving, walking, cycling, or riding the rails, the focus has been on the travel of people rather than commodities. Nevertheless, the transport of freight and its interaction with people and places along distribution routes has significant implications for understanding discursive constructions of the national and the foreign and how differential mobilities and immobilities shape places and spaces. Through a case study of a controversy in the Chicago metropolitan area, I will demonstrate the importance of considering the movement of goods as well as people, and the ways in which motility, mobility, and immobility are connected.

In 2007, the Canadian National railroad began the process of purchasing a beltline railroad around Chicago to ease the passage of containerized freight from Asia to North American distribution centers. Suburban communities protested the transaction, arguing that the increase in trains would lead to traffic congestion, problems with emergency vehicle access, and water supply contamination. Despite the local scale of these concerns, opponents framed their protest in terms of a foreign railroad disrupting American communities, suggesting deeper underlying concerns about the transnational nature of the transaction and the resulting route. They also argued for considering the spaces of this mode of transportation, what I term trainspace, as consisting of more than the vehicles, infrastructure, and adjacent properties. Opponents therefore underlined the importance of considering routes and infrastructure as a fundamental social component of transnational processes and of considering motility or potential movement along with mobility.

Beyond the Car in a Climate Change Utopia?

Conley, Jim

Utopias in which cities are transformed into spaces of automobility have been a recurrent feature of car culture almost since the inception of the the automobile (e.g., Fraser and Kerr 2002). Familiar twentieth century examples include Le Corbusier's "Radiant City," the City Beautiful movement, and Norman Bel Gedde's designs of Shell Oil's "City of Tomorrow" and General Motors's "Futurama" (on the latter, see Marchand 1992). In John Urry's influential analysis, the climate change consequences of global warming hold out the dystopian prospect for twenty-first century cities of "regional warlordism" and "digital control" as well as a more optimistic "post-car" future of "local sustainability" in which the steel and petroleum private automobile is replaced by alternative forms of personal automotive mobility (Dennis and Urry 2009; Urry 2011). In this context, it is useful to cast a critical eye on an effort to portray a utopian urban future without the car that does not correspond to any of Dennis and Urry's scenarios. In October 2010, the author came upon the exhibition "+2°C...Paris s'invente !" by the French architectural collective Et alors in the Parc de Bercy in Paris (Gourvil and Leroux 2010). Consisting of 20 "postcards" (actually photomontage billboards), one for each of the city's arrondissements, it sketched a reinvented, fantasy Paris in a world of 2° C global warming.

In the paper, I examine the imagery and textual descriptions of this architectural imaginary, focusing on its depictions of mobility as "Parisians re-appropriate the street previously monopolized by the automobile, bikes move on rapid routes, and métro stations become open to the sky." While acknowledging the conventions of architectural representation, I analyse the underlying assumptions and missing pieces in this vision, comparing it to past automobile utopias. Compared to the destruction and rebuilding of cities envisioned by such utopias, that of Et alors is mere tinkering: retrofitting existing buildings, and transforming existing spaces of mobility (métro stops, freeways, streets). The theoretical framework for this examination comes from the inspired, domestic, fame, industrial, market, and civic cités or polities developed by Luc Boltanski and Laurent Thévenot (2006 [1991]), to which project and green cités have been subsequently added (Boltanski and Chiapello 2005 [1999]; Latour 1998 [1995]; Thévenot et al. 2000, 256-63). Both utopias ("harmonious figures of natural order") & dystopias ("decline of the polity") are modeled in this framework, providing the means to critically examine the architects' vision of Paris in a hotter world.

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iResearch: Using Mobile Phones to do Radical Empiricism

Coté, Mark

Ubiquitous connectivity and the prominence of smart phones are forging a media ecology which requires both new concepts and research methods. My current research project contributes to this task by utilizing smart phones to gather data on mobility, location and information. In collaboration with colleagues in e-Research, we are developing researcher-driven tools and apps for data collection from mobile communication and location awareness in everyday life practices. This research will be undertaken by undergraduates in the socio-economically challenged Western suburbs of Melbourne, Australia. I wish to detail and discuss the practical possibilities for establishing this new research methodology. Further, I will explicate some of the key theoretical paradigms and concepts informing my inquiry.

Specifically, my research project builds upon recent publications which take our contemporary condition of ubiquitous mobile connectivity as an opportunity to re-theorize the relationship between the human and technology (Coté, 2010). Rejecting the strict separation of the natural and artificial initiated in ancient Greece (*physis* and *techne*), I have emphasized how, from the emergence of the earliest lithic industry, we have always already been mutually constituted with technology. Following Kittler's provocation, then, not only do 'media determine our situation', they calibrate the human condition.

My current project seeks to measure that condition by examining the use of location-aware apps and geo-social networks in a new media ecology. Using smart phones for data collection is fundamentally informed by an emerging paradigm, alternately called 'new materialist media theory' or 'process media theory' (see Parikka, Hansen, Mackenzie, Manning and Massumi, and on a more interdisciplinary plane, Bennett and Shaviro).

What distinguishes this emerging paradigm is how it foregrounds the ubiquity of technological mediation, building on both Latour, in seeing non-anthropomorphic networks of actants, and Hayles and Terranova, in insisting on the embodiment of information. This guides my trajectory from unsettling the binary of artificial-natural to an ontological shift, from one of 'subject-object' to 'events and process.' This last point highlights the importance of Alfred North Whitehead, whose 'process philosophy' offers a processual nature of perception for media theory. That is, it radically rethinks the embodiment of technology via both the body and its situated environment. Importantly, it operates on a pre-cognitive level, setting a sub-perceptual disposition which helps establish the conditions of possibility in which we apprehend our reality.

My methodological turn to smart phones will offer related insight, furnishing data for a new approach to 'radical empiricism' (James, Massumi, Mackenzie). One benefit is that it helps reveal how 'machines talk to machines before they talk to humans' (Guattari). It is hoped my research project will contribute to better understanding this key but largely overlooked part of our processual environment which is distributed, ubiquitous, mobile, localized, and informationally-augmented.



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Hardcopy vs digital mobile travel guidebooks: a preliminary comparison on mediated spatial interaction and a case study

Cuman, Andrea

The aim of this paper is to present some reflections and preliminary results related to my broader PhD thesis project, which deals with the mediated consumption of territory through the travel guidebook, both in its hardcopy and digital mobile version. In particular, the aim is to understand how the travel guidebook, considered as a media genre which offers a specific representation of space through textual and visual codes (Santulli, 2010; Parsons, 2008), is used to experience the 'lived, representational space' (Lefebvre, 1991) of a city. The experience of space (Tuan, 1977) mediated by the travel guidebook configures as a very specific experience, negotiated between the function and the form of the representations of the guidebook's text, the 'lived' surrounding space and the forms through which the subject decides to be, or not, 'guided' by this text in the appropriation of a territory.

In today's mediascape, the emergence of so called locative media (Kalnins 2003) and the widespread of many location based services and applications enabled the users to connect to territory and digital content in unprecedented ways (Bertone, 2010; De Souza e Silva - Gordon, 2011). The large diffusion of mobile media and the embedded location aware features, then, seem to offer the 'traditional' travel guidebook new forms of exploitation and new affordances, thus on the one side challenging publishers in the digitisation of their products, on the other changing the relation of the user both with the guidebook's text and with space.

The first part of the paper will then present some theoretical reflections around the ideas of the production of space through experience and of spatial interaction through a media genre such as the guidebook. The second part will present the results of an exploratory ethnographical observation conducted in Milan during



Fuori Salone, a set of cultural events that take place in different parts of the city. The aim of the observation, besides testing different methodological tools (Ronzon, 2008), was to understand how users navigated and made experience of the complex urban scenario of Fuori Salone. For this occasion, different hardcopy and mobile guidebooks are distributed, and the very limited time and relatively defined space in which these events took place where a privileged setting for this type of observation. The peculiar configuration of the urban space where the events took place, the spatialization and temporalization practices enabled by the different versions of guidebooks, and the different visitors' typologies produced different forms of spatial interaction through different mediated forms. In fact, people used different means to move and consume the event's spaces, negotiating between the desire and reasons to explore the events' and city's spaces, and the access to and interaction with these spaces enabled by their navigational means. In particular, two aspects seemed to emerge as relevant: the first is related to the changed forms of autonomy and control in the tourist's wandering brought by the networking and location aware capabilities of digital devices. The second is the relation between the 'visible' and 'invisible' of a city brought by the access to digital and geolocated content, which enabled the user to 'explore' the city and interact with its spaces in unprecedented ways. Moreover, what seemed to emerge is on the one hand the use of mobile media for relational and memorial purposes, more than navigational. On the other hand, a variety of modes of urban space consumption that depended on different factors (the urbanistic configuration of an area, the presence/absence of information points, the visual display of information on maps, etc.). In this context, the guidebook played a peculiar role that this paper will try to explore.

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Designing for Mobile Activities: WiFi Hotspots and Users in Quebec City

Doyle, Michael

The use of information and communication technologies (ICTs) has historically been bound to particular places. With the rapid proliferation of mobile technologies at the beginning of the twenty-first century, ICTs no longer connect places, but individuals [1]. Liberated by more powerful portable devices and an increasing ubiquity of telecommunications and wireless Internet (WiFi) networks, individuals may choose where and when their ICT-based activities are conducted. Binary notions of public and private, personal and professional that were once confined to particular places are blurring and mobile [3]. Places are both locally bound and globally connected [4].

The variety of devices with which mediated activities can now be conducted, in addition to the rising availability of free Wireless Internet in public places, facilitates the nomadic nature of the ICT-carrying individual. While ICTs have taken some of the blame for a loss of interest in public spaces in the past [5, 6, 7], their role in "reactivating" public spaces as places of work and leisure may reverse this trend [8]. In fact, the most recent study from the Pew Internet and American Life Project [9] found that Internet users were more likely to visit public places than non-users, in contrary to the belief that Internet use leads to domestic cocooning.

In this context, activities--along with people--are mobile. How could an understanding of the mobility of activities question the design of public spaces? For architects and urban planners, this goes against traditional Taylorist planning principles [10], in which single functions are assigned to specific spaces [11]. Mobile devices and their respective infrastructures (like WiFi) are seldom approached by architects and urban planners as something to be taken into consideration when designing public places: their presence is often reduced to something seen as ancillary or even invasive.

This paper will discuss the implications of 'mobile activities' on architecture and urban planning by looking



at WiFi use and users as a source of inspiration for designing gathering spaces in the 21st century. Analysis of server data from a local WiFi provider, ZAP Québec, and of results from an Internet survey of its members, carried out as part of a Master of science in architecture conducted in Québec City at the Interdisciplinary Research Group on the Suburbs (GIRBa) at Université Laval [12], identify the most frequented hotspots and three WiFi users profiles. A spatial analysis, derived from the Pattern Language developed by Alexander and colleagues in the 1970s [13], reveals the common urban and spatial qualities that characterize the most frequented hotspots. While the exploratory nature of the study may raise more questions than it answers, this paper will take the opportunity to turn unanswered questions into a discussion about how understanding fixed places as 'mobile' could aid in better designing public places for the plurality of 21st century lifestyles.

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Rerouting Borders: Subversive Uses of Location Based Media

Duarte, Fernanda

The evolution of wireless and multifunctional communication technologies has introduced specific parameters for communication processes within geographically defined locations in the constitution of a "mobile networked society". Such parameters arise from the ways in which pervasive computing not only has granted portability to the use of digital devices but has also transformed the mobile condition of the user in a ubiquitous provision. Furthermore, it also entails how the articulation between mobile devices, GPS (Global Positioning System) and GIS technologies (Geographic Information System) has enabled users to be aware of their geographical insertion in convergence and divergence with global spaces. Despite previous scholarship in the studies of globalization and its effects have privileged a dichotomy of places vs. flows, and depicted ubiquity as a preferred quality of omnipresence over the 'limitations' of being inscribed in one place (Castells, 1999), studies being developed in the field of personal mobilities (Kellerman, 2006) propose an alternative approach to network studies by reviewing the dynamics between physical mobility (location based in actual space) and informational mobility (data transmission through mobile technologies), and suggesting a new approach to understanding the role of location (Souza e Silva, 2011).

The fallacy of fluidity in networks and the consequent overcome of geographical inscriptions is reinforced by the fact that, even though the flow of capital and goods is a premise of neo-liberal capitalism in the era of 'ultimate globalization', the role of nation-states hasn't been exercised in the direction of freeing completely the flow of transactions. They have become even more sophisticated 'gatekeepers' in the governance of the flows, in



the exercise of protocols; especially when it comes to the (im)mobility of people. By readdressing the role of location in the topography of the network, the concept of net locality (Souza e Silva, 2011) suggests that, even though locations are site specific, they might not be static.

This study follows this path in construction to discuss two main points: the implications of GIS and GPS in the development of protocols that govern (im)mobility in State Borders and how creative location based media practices exploit breaches of protocol as forms of political resistance and subversion. Location, borders and territories are regulated by laws, rules and protocols and consist of tensions between motions of (de)(re)territorialization. Even though territories and their borders are self evident, they are not artificially created; more than arbitrary lines on maps, they are liminal spaces of political, cultural and security significance. By recognizing territories and borders as of a multi-layered topography, I call attention to the necessity to analyze how the protocols that govern over (im)mobility of people and information operate in liminality of national borders. This study also draws from Galloway's thesis on the becoming and operations of protocols in/through power networks and how critical the materiality of the digital is to determine how digital protocols operate because (1) power is an issue of praxis, and (2) practical life in the contemporary world cannot escape being inscribed in informatics.

The political implications in the design and application of location aware technologies present challenges to consolidated ideologies of technology control and reconfigure alternative political meanings about locations. Activist uses of location based media, apart from investing people, location and mobile devices with great connectivity also audits the ways in which the illusion of a seamless connection operates in the navigation of actual and informational spaces. By investigating the routing boundaries of space, activist projects that deal with location based media go beyond understanding physical reality input as an additional layer to mediate our networked condition, and watches for how the transit between physical locations and mobile devices are inscribed within an arrangement of substantial infrastructure, political and economical mechanisms of control.

This study will introduce a comprehensive approach to projects that take on location based media as activist and subversive practices and discuss their political implications in a 'mobile networked society'. To illustrate these issues I present examples of subversive use of location based media in State Borders, such as the 'Transborder Immigrant Tool' (TIT) an activist project developed by the Electronic Disturbance Theater group (EDT). TIT is a software application designed for GPS enabled cell phones to assist immigrants crossing the desert borders to the U.S. from Mexico. In a time in which more strict immigration policies in the United States are being adopted - especially regarding the Latin population - such a project sheds light on the political and territorial matters that ground the delicate discussions about immigration policies and board barriers. Even though the development of mobile technology has created an imaginary of transnationality and dissolution of barriers and frontiers, the turmoil caused by the development of the 'Transborder Immigrant Tool' unveils how territorialized the logics with which borders are dealt with still are.

MatchingMarkets: A Transient Mode of Local Exchange

Dunnam, Jennifer

The past decade has seen a sharp increase in demand for locally grown, organic products. News of pesticide abuse, contamination outbreaks, and poor livestock conditions have led many to reexamine their food sources and consider alternative places to buy produce beyond the supermarket (1). Several grassroots efforts have risen to combat such trends (i.e. the Slow Food Movement) and recent groundbreaking documentaries have provided a focused look at the crisis by exposing the social, economic, and environmental factors that have driven the shift from small-scale agriculture to mono-cropping practices requiring extensive supply-chain logistics (2)(3)(4). With communities eager to support regional farming and local exchange, there has been a growing interest in the farmers' market as a means for interfacing with local producers and purchasing fresh, affordable organic products. Despite the increasing number of market patrons, local vendors continuously struggle to maintain a competitive advantage over supermarket retailers that offer fast, convenient, and consistent food services. The shortcomings of current farmers' markets can be attributed to their limited schedules and locations, as well as variable supply and demand throughout the year. As cities continue to grow in size and complexity with their boundaries persistently pushing outward, there arises an urgency to provide more sustainable methods for small, local producers to distribute their products in an efficient, affordable, and engaging way.

This paper presents the idea of a networked, transient mode of local food exchange and proposes a



responsive infrastructure for integrating dynamic markets within the urban fabric. Focusing on market typologies as an area for critical intervention, I propose a design strategy whereby vendors are liberated from regulated market schedules and retail locations, and mobilized to operate as independent distributors informed by real-time supply and demand fluctuations. A research study is presented on early European traders, modern locations theories, and contemporary supply chain logistics in order to contextualize the proposition within a historically evolving spatial relationship between producers and consumers. Using social, environmental, and economic lenses, I assess the benefits of a transient food market for South Tyrol, Italy, a region with a long tradition of agricultural production but where modern advances in technology provide significant advantages for exporting products rather than selling locally (5). The design research and proposal is presented as four distinct ideas that articulate the emerging role of the 1/ producer, 2/ products, 3/ people, and 4/ places within a digitally connected and socially networked environment. The convergence of these ideas establishes the critical design project, which is formalized and tested through a series of future projections that speculate on the spatial evolution of cities as people become increasingly connected and guided within an urban operating system.

Topics discussed within this paper include responsive “plug in” infrastructures, networked people and products, real-time data mining and analysis, and urban operating systems inspired by theories and applications of architectural cybernetics.

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Jet Set: Concorde and the Configuration of the State in Aerial Space

Edwards, Geoffrey

Beginning with the crises of the Great Depression, and most intensively since the end of the Second World War, the state has assumed an increased role in stimulating capital development and controlling the mechanisms of capital reinvestment. With regard to aerial space, the entrepreneurial state initially extended large-scale influence over its production immediately following the Second World War, illustrated by the federally-mandated improvement of the air traffic control system in the 1950s. At the same time, airline manufacturers began building aircraft using jet-engine technology developed during the war. Passenger jets allowed airlines to fly more passengers over greater distances in less time than conventional aircraft. Over the next decade, aircraft manufacturers released larger and more efficient jet aircraft, including the most long- and widely-used of early commercial models: the Boeing 707 and Douglas DC-8. In the late 1960s, Boeing fielded its 747, which maximized seating capacity, thereby minimizing operating cost per seat. The pursuit of profits, and little else, drove the design and employment of these early subsonic jets.

Concorde, the short-lived supersonic passenger airplane, perhaps better than any other single passenger aircraft, exemplifies the emerging role of the state in passenger aeromobility during the 'jet age.' British Airways and Air France operated a total of fourteen Concorde aircraft on point-to-point routes from Paris and London to several locations worldwide, including Washington, Miami, Bahrain, Rio de Janeiro, and (most popularly) New York. Because it traveled at almost twice the speed of sound (1,350 mph), Concorde completed the trip from New York to London in 3-4 hours instead of the 7-8 required by conventional passenger jets. What passengers gained in time they lost in cash: tickets cost passengers at least double those of transatlantic first-class airline travel. The state paid a steeper price over the course of the program. By the time of its commercial launch in 1975, the governments of Britain and France had already spent \$21 billion on the Concorde program. Both airlines received state subsidies for sustaining Concorde operations; British Airways eventually made a small profit.

Using the case of Concorde, particularly the late-1970s opposition by the Port Authority of New York and New Jersey to Concorde traffic at John F. Kennedy International Airport, this paper introduces a framework that conceptualizes the institutional structures of aerial space and the policy mechanisms by which the territorial state



produces and occupies the space of the atmosphere. To support my framework, I draw upon accounts and documentation of state authority related to Concorde flights at JFK. In the first part of the paper, I map the configuration of institutions that order and authorize aerial spatial practices. In the second part, I apply this framework to the case of JFK Concorde flights, describing how terrestrial-institutional claims to authority reflect and employ cartographic understandings of aerial space. I conclude with a call for urban scholarship on the aerial space of cities, particularly as corridors of aerial activity and sites of political struggle.

Being local and establishing 'ethos': a paradox of community building in global cyberspace?

Eronen, Maria

The freedom of speech is one of the most significant individual rights entailing a freedom to evaluate in public what or who affects one's well-being and how things could be better. The freedom of speech is, of course, a vital and priceless value for people defending their social position and well-being in modern societies at large, but it can be also used for the purposes of domination and power over other people. Particularly, many internet forums today provide a paradise for those who just want to enjoy the free speech without real, instant responsibilities (Silverstone 2004). Rhetoric is particularly essential when contributing to community building in global (multicultural and multinational) cyberspace, since the way togetherness is formed online emphasizes the meaning making in texts and through language "here and now" (see Fernback 2007, pp. 63-64). In other words, the creation of togetherness via computer screens is solely dependent on textual cues participants give each other (Miller 2001, pp. 272-273; Warnick 2007, pp. 47-48).

The nature of community building and communication online has been criticized by many scholars. For instance, the media analyst Roger Silverstone (2004) has suggested that the responsibility of making oneself understandable to the 'other' is not required because the mediated face can be switched off if it seems too challenging. This relates closely to criticism by the sociologist Kevin Robins (1999) who argues that virtual communities are too easily based on similarities in interests and values hiding at the same time real resources of social commitment and experience, which may lead to a mere hate-speech against other online participants. Communication in cyberspace is not, however, a homogeneous phenomenon (see e.g. Fernback 2007). When thinking about the ways of taking responsibilities and showing commitment in cyberspace, it is noteworthy that English as the lingua franca of today makes it possible for participants coming from various cultural and national locations to share the same discussion board, whereas websites of small national languages (such as Finnish) are more likely to be shared by people sharing also the same national and cultural location.

The purpose of this presentation is to discuss whether 'ethos', the way of being particular and local by sharing values and experiences within a particular social context (see e.g. Reynolds 1993), may be more easily established in Finnish online environments compared to English language forums on which global participation is more likely. It is taken as a starting point that because we all are particularistic beings tied to our experiences and national and cultural values, our common humanity will never make us a single universal tribe (Walzer 1994, p. 83). Roughly put, the tension in online environments enabling multicultural and multinational participation is based on the idea that cyberspace is not a placeless utopia but a real discursive site in which online participants aim at sharing their particular realities and location, which may cause moral conflicts the solving of which requires taking the responsibility (see DuVal Smith 1999; Mitra & Watts 2002). Bearing in mind the particularistic nature of human beings and the idea of cyberspace as a real discursive place, I will also discuss whether the higher likeliness of multinationalism and multiculturalism of many English language forums may easily lead to the switch-off of the 'other' and whether the shared national and cultural locality of Finnish language forums can be seen to entail shared responsibility and negotiation of moral norms.

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Opening Up a View on the Mobilities Related to a Total Institution – Life in and Around a Long-Term Care Home

Fisker, Christian

Surrounded by a world of hyper mobilities there are people whose existence is relatively immobile and dependent to some degree on the mobility of others. To date the mobilities turn has not placed a great deal of focus on these forms of mobility. In his groundbreaking work *Asylums*, Erving Goffman (1961) opened a view on life inside what he referred to as a 'total institution'. Goffman describes their "...total character as symbolized by the barrier to social intercourse with the outside and to departure that is often built right into the physical plant, such as locked doors, [and] high walls...". Unlike other large mobility nodes, such as airports or train stations, that demonstrate both mobilities and immobilities, with their overall focus being the mobility of travellers, a total institution is a world where residents experience limited mobility or relative immobility. At the same time, there is a world of others, such as staff and family, whose mobility is used to assist in addressing the needs of relatively immobile residents. While there may be barriers and obstacles to mobility, Goffman outlines a wealth of open and covert mobilities through his descriptions of an 'inmate world' (p.12), a 'staff world' (p.74), visitors (p.102) and 'house rules' (p.48). We can see a range of 'mobile withs' (Jensen 2010), 'mobile others' (Fisker 2011) and segregated mobility patterns (Jensen 2007). We can also see design (Akrich 1992) and operational scripts (Fisker 2011) that encourage and discourage certain mobilities. These mobilities can be seen internal to the total institution and also streaming in and out of the total institution.

The purpose of this paper will be to open up a view on the mobilities related to a long-term care home, being a setting where frail seniors live, eat, socialize and receive health, wellness and other services that address their needs, using Goffman's notion of a total institution as a frame. Within this frame, the paper will use the concept of mobility action chains (Fisker 2011) as a means of tracing out the many complicated ways that physical and virtual mobilities are connecting residents with their needs, through a case study of a long-term care home located in a suburb in Greater Toronto, using empirical and qualitative methods. At first glance, when viewed from outside, the residents may appear relatively immobile, inside a closed off building. Yet, when viewed closer up residents can be seen as using independent, mobile with and mobile other configurations to address their needs, within the home, while at the same time contributing to the creation of a constellation of mobile others that include staff, family, health and social service staff and food, health and pharmaceutical suppliers.

In part the paper will explore the operational scripts in place among government bodies that determine who can have citizenship within a long-term care home and to what degree mobility, or lack of mobility, factors into this decision making. The government legislation and regulation, regarding the operation of long-term care homes, and how this translates into the everyday life mobilities in and around the home, will be considered. The paper will also delve into how the design scripts set out by government officials in terms of the development of the built environment and the design of long-term care homes, and how this translates into the everyday life mobilities in and around the home.

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Finding Your Place: How Mobile Games and Social Media can Redefine Climate Change and Community

Foxman, Maxwell

If Marshall McLuhan's global village has come into reality through mobile technologies and social media, that village is facing an imminent crisis as the effects of global climate change are manifested through natural disasters, food shortages, and health pandemics. While mobile technologies increasingly allow individuals to connect across the world, these very technologies provide a mode of interaction that may convey a new sensibility on how to approach the many sacrifices necessary to curb the global climatic catastrophe. In other words, these technologies can lead society from a previous modality of conservation to the more efficacious and egalitarian mode of "play."

This paper places "play" as a primary means of finding balance in the movement to combat climate change, advocating a shift in rhetoric from conservation and saving to that of expenditure and sacrifice. Drawing from the work of George Bataille and Marcel Mauss, this proposal is rooted in the societal implications of the potlatch, a Native American ceremony. Through the potlatch, play through sacrifice allowed for not only the redistribution of wealth and societal responsibility, but also led to the communal pursuit of greater glory, as the most powerful figures in a society vied to demonstrate who could give up more to their neighbors. This model of wealth redistribution through expenditure created a sense of balance in the community. This balance is also necessary in the human understanding of climate change and nature according to theoreticians like Bruno Latour. In his work, Latour advocates for a similar form of sacrifice between human and non-human entities by adopting a viewpoint of what he calls the "collective." In the collective, there exists a reciprocal relationship between these human and non-human entities that not only reimagines the interactions of these groups, but also reimagines their collective place as coexisting in the expanse of the world, as opposed to being separated into different locales of "society" and "nature."

Today, mobile technologies are providing a new means of translating such ideals into reality, allowing through their very designs the means to achieve more and proper balance through play. Their infrastructures, while still based around modes of consumption and conservation, provide uniform platforms for civic engagement, education and political discourse, both theoretically and in actuality. Even as mobile technologies become increasingly pervasive, video games and play have provided new modalities of thinking in education. Foursquare's play structure has become a new way of interacting socially through play, as well as a new means of visualizing and imagining the human place in the city and the world. Even the "Occupy Wall Street" movement has capitalized on a blend of locality and the global, on social media and technology to create a "play" at protest, where the specific goals of traditional movements have been sacrificed to create balance for the "ninety-nine percent." We have already entered the age of play.

This paper will trace not only the historic precedent and theoretical background for bringing climate balance through play, but also will show why it is necessary to make a shift in perspective now, in a time when the globe has already reached crisis. The widespread use and increasing visibility of mobile technology only aids in the effort to abandon the doctrine of saving and embrace the tenets of play. This paper will communicate a new means of approaching questions of location and mobility as it advocates for this fundamental transformation in perspective, from the intricacies of political policy-making to the creation of new games and technologies. By deviating from the world of conservation to a world of play, and by moving from society's present structure to the "collective," this paper will demonstrate how the concept of location will be both figuratively and literally changed as the place of humanity in the world is rescripted through play, such that people are more engaged and connected to the world than they have ever been before.

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Location-based social networks and mobility patterns: An empirical examination of how Foursquare use affects where people go

Frith, Jordan

Literature on earlier mobile technologies has often been criticized for its strong focus on how these technologies "remove" people from their surroundings or privatize public space (de Souza e Silva & Frith, under contract; Gordon & de Souza e Silva, 2011). For example, Bull (2004) argues that Walkman use allows for a literal form of mobile privatization in which people can simultaneously be in a public space while occupying a privatized soundworld. Du Gay et al. (1997) make similar claims in their writings about the Walkman. The idea that people who use mobile technologies are not really connected to place is also prevalent in the mobile phone literature (Puro, 2002). Gergen (2002) even goes so far as to describe mobile phone users as enacting a form of "absent presence" in which they are simultaneously present yet made absent through the remote connections enabled by the mobile phone. A recent piece examining the use of laptops in public spaces claims that "The 'heads-down' nature of devices that support this technology suggests that users are less attentive to their surroundings than users of any other media, including book readers with a similar posture" (Hampton, Livio, & Goulet, 2010, p. 716). As showed elsewhere (de Souza e Silva & Frith, under contract; Gordon & de Souza e Silva, 2011), the criticism that mobile technologies lead to a disconnection from public spaces is consistent throughout the literature on earlier mobile technologies.

This presentation complicates that criticism by reporting on 34 interviews with users of the location based social network (LBSN) Foursquare. Foursquare works by accessing location-based information that is about place and dependent on physical location. Unlike technologies like the Walkman, the mobile phone, or laptop computers, Foursquare works by providing place-specific information, complicating the idea that mobile technology use leads to a disconnection from public space. The question that arises then is what kind of connection to place Foursquare fosters and how do these connections differ from users of previous mobile technologies.

How location-aware technologies affect connection to place and mobility has been a central research area in both earlier locative media art pieces and location based mobile games like Mogi (Hemment, 2005; Licoppe & Inada, 2006). With Foursquare and other location based services (LBS), these issues have entered the commercial mainstream. Foursquare now has over 10 million users and has partnerships with major companies like American Express and Starbucks. Because it is relatively new, however, there is still a lack of empirical research on how people actually use Foursquare. Through extensive ethnographic work and interview data, this paper will present my empirical findings on how users feel about Foursquare and physical mobility. There are a number of distinct ways that using the application encourages them to see place differently and change their mobility patterns. These include the ability to map the location of friends, score points, earn badges, and use the Explore feature to see where other people with similar check in patterns tend to go. However, while all these elements do affect physical mobility, they do so in complicated, often contradictory, ways. There is no monolithic way people use the application and only through close empirical work are we able to tease out the true potential of Foursquare and other LBSNs to affect the way people see the city and decide which paths to follow. This presentation will report on that close empirical work and contribute to the literature on how mobile technology use can affect the way people manage and experience physical mobility.

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LBS in our playful culture

Froes, Isabel

This article intends to identify defining aspects from play theory, such as transformation, sociability, communal and individual identities with social and cultural developments within mobile applications, more specifically LBS and LBSNs.

Mobile technology established its place in 21st century social imaginary (Taylor, 2004) and has allowed us to be connected any time, anywhere, as long as there is a signal. Besides the usual functions with which mobile phones construct our social living (sms, voice to voice communication) (Ling, 2004), this is now augmented with the addition of location-based technology, by for example relying on devices to show us directions (gps systems) or receiving information from friends or networks when in a specific location (de Souza e Silva & Frith, 2010). Mobile devices are no longer just gadgets or a tool for businessmen (Ito, 2006). Although they are still regarded as symbols of status, they are also devices which help us locate ourselves in the world in both a literal sense, by working as a guide or a map, and a metaphorical sense, as they represent a unique identity or how one is perceived by others (Sheller, Urry, 2003; Stald, 2008; Taylor, 2004; Castells 2007).

While mobile phones became ubiquitous, game-like features have become a relevant aspect in mobile culture (de Souza e Silva & Gordon, 2011). Either as a way towards better interaction and motivation, a source of creativity, a tool towards developing playful interfaces and activities or as a core concept towards artistic experiments, play no longer sits in the background and has become an intrinsic aspect within mobile devices. For example, a number of applications which borrow concepts from game rules, such as competition and rewards, as in the case of badges in Foursquare. Play and its role in the formation of the individual or how it has been shaping culture (Huizinga, 1939; Callois, 1958) were controversial in the early and mid 20th century however. More recently, such theories were revisited within the themes of order and disorder, as well as rationalistic thinking determined by Western theories on play (Spuriou, 1989); categorized it according to different rhetorics (Brian Sutton-Smith, 1997); or yet approached through a broad analysis of human social expression by revisiting sociological theories such as Marx, Goffman, Durkheim (Henricks, 2006). Despite its relevance, such theories have not yet been confronted with studies of mobile developments. This article intends to critically assess the developments of mobile applications and performances, more specifically LBS and LBSNs together with some of the distinct concepts from play theory.

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Jumping for Fun? Negotiating Mobility and the Geopolitics of Foursquare

Halegoua, Germaine: Leavitt, Alex and Gray, Mary

This paper looks at "jumping," an emergent practice on the location-based social media service, foursquare, which we analyze within a framework of mobility that builds on previous literature about mobile social technology. We suggest that studies of social technology should consider constructions of "the user," recognize the social power of differential mobilities, and critically examine the meaning of "local" within location-based social media. Through discussions among developers, official foursquare policies and mission statements, and conversations among foursquare users, we identify how certain practices and users are discursively constructed as normative while other practices and user groups are marginalized.

Foursquare is a mobile social network system (Humphreys 2007) developed in the United States which allows participants to explore the city in which they live by checking-in to participating locations (most of which are spaces of consumption) and connecting with a network of other users. While foursquare is designed for relational interaction with places on a local level, the service also implements a game-like component, awarding points, rankings, and badges for certain behaviors: exploring new locations, frequenting neighborhood locales, and visiting events or iconic venues. Though users may create new entries for locations, the designers of foursquare assume certain practices and specific relationships to places when handing out rewards.

This paper focuses on a practice which foursquare users have dubbed "jumping," where players check-in at locations without being physically present, usually to gain badges only accessible in distant locales. Users who "jump" have become a controversial group in the foursquare community: many see them as cheaters who "game the system" and foursquare does not recognize their check-ins with points. While jumping occurs in many countries, critics have associated the practice with Indonesia, where foursquare has taken off as a local phenomenon and jumping is often an organized activity. However, since most badges are only linked to US-based locations, Indonesian users must "jump" in order to gain them.

This paper sheds light on some of the practices and industrial logics that construct location-based social media participants as possessing certain types of mobility and embed these users in privileged, socio-technical realities. We utilize our study of foursquare jumpers as a lens through which we consider the discursive construction of social media users, especially in relation to location-based services. We examine online correspondence among foursquare participants, as well as between designers and users. Through these messages, we recognize the



tensions between the assumptions of designers and the emergent practices of early adopters and avid participants. However, only the emergent practices of foreign users really conflict. We suggest that jumping represents an example of Uteng and Cresswell's differential mobility (2011), though we expand their concept to consider the active negotiation of individuals' agency and their relationships to technology and power.

By examining the case of Indonesian foursquare jumpers, we highlight the geopolitics that occur on social media. At face value, there is a top-down conflict between the foursquare developers and the unexpected uses of the Indonesian jumper community. By expanding on differential mobility, we call attention to the potential for these foreign users to create mobilities for themselves, even if there may be no way for foursquare (as an American start-up company framed by Silicon Valley, Web 2.0 values [Marwick 2010]) to cater to them. However, another form of geopolitics emerges, where jumpers' practices – while recognized – are still discouraged and criticized as “less valid.” This invalidation creates an unintentional othering, which is then reinforced by popular opinion of users in other spaces (like online forums). Though the system is adapted to try to account for legitimacy of jumping practices, ultimately these users do not represent foursquare's profitable market. Additionally, the foursquare jumper example identifies implications for social media more broadly. Unlike other media industries, such as television, which adapt to local circumstances through logics of localization, social media companies have been less apt to tailor their services to fit local contexts. Yet these local contexts help construct mobilities that individuals perform across social technologies, and this employs foursquare jumping to identify these tensions.

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Hegemony and Location Aware Technologies

Hall, Zachary

In this paper, I conduct a critical literature review that addresses hegemonic disparities due to technology. I synthesize nearly fifty scholarly articles and discuss the impacts of the authors' findings through a location-aware lens. I posit that location-aware technologies are a driving force behind the evolution of a variety of civic discourses, ranging from voting to revolution. Despite the widely proposed egalitarian potential of location-aware technology, I argue that its utopian possibilities are accompanied by a host of issues that complicate the traditional understanding of the technology's politics.

During the analysis, the articles reveal three major discourses that surrounded location-aware technologies. The first inspects the ways location-aware technologies empower the underprivileged. This populist view highlights how technologies act as civic equalizers. For instance, the notion of protesting has been revolutionized by “smart mobs”: groups that use digital media to organize and assemble. The second discourse involves the ways such technologies restrict civil liberties. This approach emphasizes the disparities of access and investigates the dubious uses of location-aware technologies such as cyber-stalking and government monitoring. The third and final discourse looks at the ways different hegemonic groups collaborate in order to make a more efficient political sphere. Location-aware technologies can be used to negotiate power by transforming the voting process and simplifying information transfer. These three discourses provide a framework for analyzing both the positive and negative aspects of location-aware technologies. Based on this information, I conclude that, in order to maintain an active and healthy political sphere, civic and academic leaders must promote policy that encourages participation and discourages exploitation.

These findings are significant for a number of reasons. First, the articles reveal that location-aware media have a direct impact on the civic lives of its users. They provide different hegemonic groups, from the affluent to



the disparaged, a plethora of options for engaging in political discourse. Second, they reveal how the geographic and digital elide. Location-aware technologies provide a new method for engaging in civic discourse, irrespective of physical location. Finally, this analysis reveals the multifaceted nature of location-aware technologies. They are neither fully beneficial nor obstructive to the political realm. Suggesting they are undermines the technologies' complexity, and any policies made on such erroneous assumptions are negligent.

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Exploring experimental urban mapping tools with social media

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Context

Urban mapping is intimately related to the practice of urbanism. This paper presents completed phase one research in a project into the design use of social and locative media, in an urban mapping tool via a mobile 'app' Streetscape.

Modernist mapping determined design solutions based on statistical methods; postmodern techniques, since Lynch and Jacobs in the 1960s, centred on individual perception. The latter have been criticized as conservative and out of touch with radical forces that drive urban development. Mapping remains important in urbanism and the search for alternative approaches continues (Corner 1999). Emerging forms involve human and non-human actors, joining individual perspectives, and relating them to overarching topics and dynamics of urban planning. New mapping tools are influenced by open source tools and crowd sourcing (OpenStreetMap, Ushahidi). So far, however, there has been little exchange with ongoing research in locative media and place specific computing (Gordon & de Souza e Silva 2011, Lemos 2010, Messeter 2009) that involve ubiquitous technologies



(Dourish & Bell 2011) and their relations to mapping and design of cities (e.g. Shepard 2011).

We have designed and trialled the transposition of the methods of Urban Gallery (UG), developed by chora (Bunschoten 2001), via locative and situated mobile media in a GPS-based app. For us, urban life is technologically mediated, and our technological practices are linked with contexts and uses. Yet we need to investigate how to make the mediated city critically legible through developing tools for mobile literacies that are not just legitimations of ubiquitous computing in an ethnographic stance (Dourish & Bell 2011), but are also locative enactments that enhance understanding of urban life.

Research questions

How are acts of urban mapping influenced when transposed from an existing mode to a mobile app? What are the most important outcomes in terms of mapping procedures and contents? What are the alternatives for further development of urban mapping apps?

Methodology The design of Streetscape was based on an assumption of interesting benefits in translating the mapping strategies of Urban Gallery into a mobile app for: 1) fieldwork mapping, carrying functions such as geo-referencing text input and photographic registrations, and 2) the making of a database containing place specific data for further reworking and scenario building using a wiki.

The UG methodology attempts to develop models for interventions in urban situations where traditional planning is ineffective. It focuses on mapping 'proto-urban conditions' as a field of dynamic urban phenomena (described through four perspectives: Erasure, Origination, Transformation and Migration). Through game structures and scenario building it connects phenomena across scales, from very local to global.

Streetscape was co-designed with a commercial developer of mobile apps. The first version, tested in a two-day mapping workshop with 60 students in August 2011, was based on a simplified version of UG. Locative registrations by groups of students following the four dynamic perspectives were stored in a database. The workshop process was observed by researchers, uses of the app were filmed, plenary sessions discussed students' views with the design-research team, and an evaluation was conducted by the students.

Findings

Initial findings are:

- the UG method was effectively transposed to mobile, social media
- heuristically the app helped students map the city discovering new urban specifics and place-related qualities
- combining map media specifics (i.e. use of a map with few building details), GPS navigation, and assigned mapping tasks (perspectives) spurred students' imagination and attention; and
- the app has potential for further development, i.e. adding flexibility, including more specific mapping procedures.

Conclusions

The design and use of the mobile app Streetscape as an experimental urban mapping tool proves promising in terms of exploring mapping procedures and content. Evidence indicates great potential for further development of experimental urban mapping, street-level urban ethnography, and the use of the app as a device for initializing processes of participation and bottom-up surveying of urban resources.

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What is Gamification: An analysis of Gamification in the context of Mobilities

Hulsey, Nathan

The conclusion of the first Gamification Summit has yielded tantalizing evidence that the digitally-driven hybridization of spaces will have direct and irrevocable impacts on the individual and collective experiences of space, place and location. However, much discourse is still concerned with technology and implied effects, rather than the process of Gamification. Gamification is the layering of digital input/output devices such as maps, point systems and statistics over actions, space and institutions. It is a direct product of game theory, game studies and the proliferation of game environments in tandem with digital communication networks and their corresponding technologies. Two corresponding technologies I will focus on in my analysis of gamification are interactive maps and digital gamespace. I suggest that games and maps are both apparatuses ensconced within cultural and political modes of production. Furthermore, they both share striking similarities in their ability to shape collective and individual experiences of space, place and location.

It is important to note that the development of digital gamespace and the development of the interactive map advanced side by side. In fact, the first instances of a hybrid cartographical space coupled with immersive, navigable space appeared in simulations and games in the form of minimaps, map overlays and geometrical interfaces. The immediate navigable space is linked to a bird's-eye view (or in some cases, a "mole's-eye view"), alternately revealing and obscuring risks in real time as the player moves. With advances in communications technologies, the interactive map has expanded from computational space to physical space, effectively creating a hybrid between the two. Maps have evolved from stationary artifacts to mobile, reactive, data-driven tools for navigating and designing physical space, place and location. Technologies such as Geographic Information Systems, Location-based Services and Augmented Reality are all representative of converging practices of design and implementation between gamified systems and cartographical practice. Furthermore, maps, like games, also affect the practice of those who design and use them. Mobilities, spatial understandings, spatial constructions and emplacements are routed by cartographic practice.

While many theorists have noted the overlaps between embodiment, space and place, there have been few direct efforts at correlating interactive maps with the various iterations of digital games. Even though recent remediations of games and maps incorporate elements of both formerly disparate artifacts, the lack of attention to the contextual continuities between the two is the result of (1) disciplinary boundaries within academic fields and (2) the lack of a unitary framework for organizing the common threads between the two. My analysis addresses the latter and not the former. A genealogical analysis of maps and games will provide a flexible and effective for arranging a general set of relationships between gamified space/action, cartographic technology/practice and their cyclical affect (i.e., gamification) on physical, digital and hybrid spaces through a mobilities framework.

On Allegorical Machines: Framing a Historical Constellation of Locative Media

Ingersoll, Alex

Geospatial information, location-based services, and augmented reality applications are part of an increasingly popular group of digital technologies that determine a user's or object's physical, geographical position and then provide an interface that adapts according to changes in geographic information. This is a networked interaction that is based on the physical position of the individual who is using the device. Importantly, when combined with the code of the computer, locative media encompass a range of technological, bodily, spatial, and cultural components that are not completely unique to these contemporary orientation technologies. As mobility studies has challenged how conventional scholarship approaches the social and cultural dimensions of mobility, I am interested in pressing mobility studies to consider reading these "new" locative media technologies through the lens of the "old." What would it mean to extend or re-map the historical constellation of technological attempts to orient individuals according to an augmented spatiality? This paper represents an attempt to develop a theorization and frame an assessment of a historical constellation of orientation and navigation technologies. I argue that a deeper constellation of orientation and navigation technologies would contribute to a productive reflection of the relations juxtaposed (and often marginalized) formations in the fields of media, technology, and mobility studies.

Locative media, therefore, while constantly positioned as "new," have an extensive and complex history,



including the longstanding human struggle with technology and space. Much of the literature on locative media, however, tends to ignore the past in favor of overvaluing the “newness” of digital devices and the techniques and practices they support. With this paper, I emphasize the importance of interrogating spatial orientation technologies such as the astrolabe, armillary sphere, lodestone, and the magnetic compass to highlight lines of conflict and struggle within a deeper historical constellation of which, I argue, locative media are the latest manifestation. This approach is based on the cross-disciplinary methodology of media archaeology (see Huhtamo and Parikka 2011; Zielinski 2006), which emphasizes the discursive and material cultural influences on these technological forms. This historical approach is rooted in a series of theories and methods that have been developed to view a history of technology through its alternative roots, its forgotten paths, and neglected and marginalized ideas and machines, all of which become useful points of intervention when reflecting upon the “newness” of digital culture. This is an approach where the researcher attempts “to uncover dynamic moments in the media-archaeological record that abound and revel in heterogeneity and, in this way, to enter into a relationship of tension with various present-day moments, relativize them, and render them more decisive” (Zielinski 2006: 11). By tracing the complex ways these technologies have contributed to the social imagination of space, and the resulting cultural experiences and expectations this enables, I address questions such as: how do these technologies inform the desire or apprehension of the “real,” how do they organize a user’s experience of spatiality, and how can we frame the negotiation between the technology and the human imagination?

Instead of operating within the frame of “new” spatial orientation technologies and the current fascination with locative media, I work towards a theory of allegorical machines. This provides an effective extension and theoretical re-mapping of the discussions regarding media and space as well as technology and modernity. By extending the literary function of allegory, I argue that locative media are part of a deeper lineage of spatial orientation technologies that assist in developing an imagined or informational otherspace in relation to the individual, the social, and everyday life[understand locative media less in terms of the things themselves but in terms of the cultural imaginations that are associated with spatial orientation technologies]. These allegorical machines underscore the recurring cultural struggles with the technological apprehension of the “real,” the linkages of the material, symbolic, and ideal with cultural and spatial imaginaries, and the consideration of spatial theory in relation to the field of communication, media, and mobility studies.

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Rescuing Jamestown Rediscovery: Relationships of Communication and the Potentiality of Mobile Technologies

Jacobson, Leandra

Jamestown Rediscovery is a project operating with three larger organizations: Preservation Virginia, the National Park Service, and Colonial Williamsburg. Jamestown Rediscovery Project values historical integrity, but all these organizations have an individual agenda. An analysis of the socio-geographical site of Jamestown Island will focus on the social interactions between these organizations and how utilizing mobile technologies can facilitate operations and increase tourism. The paradigm shift of technology is irreversible and ongoing; resistance is pointless in the competitive game of tourism and a digitization of history must be integrated to prevail.

The inability to maintain the site’s independence, evidenced by the “bailout” partnership with Colonial Williamsburg, should also cast an eye inward. Utilizing the ideas from staff members to aggressively expand media marketing on sites such as Facebook, YouTube, and Twitter can positively affect the disposition on history in modern culture’s value system as shown in marketing trends (Evans, 2008). Infiltrating value systems with modern tools is the progression of history, and avoiding the merger of media and historical archaeology would be fatal. Creating audio tours, outreaching to churches for funding reconstruction efforts of the 1608 church, and virtual tours of the site are all ideas from the staff that have been reviewed and never acted upon. In an effort to save money, new ideas are risks yet may become the generators of revenue needed to regain independence. Resistance to change will inevitably collapse an organization that has potential to be fueled by what technology has to offer.



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The Will to Connection - Networked technologies and Staged Mobilities

Jensen, Ole

'The people who first built a path between two places performed one of the greatest human achievements. No matter how often they might have gone back and forth between the two and thus connected them subjectively, so to speak, it was only in visibly impressing the path into the surface of the earth that the places were objectively connected. The will to connection had become a shaping of things, a shaping that was available to the will at every repetition, without still being dependent on its frequency or rarity. Path-building one could say, is a specifically human achievement; the animal too continuously overcomes a separation and often in the cleverest and most ingenious ways, but its beginning and end remain unconnected, it does not accomplish the miracle of the road: freezing movement into a solid structure that commences from it and in which it terminates' (Simmel 1909/97:66)

This paper put forward the argument that mobilities research need to pay increased attention to the way network technologies and location aware media are influencing the movement in everyday life. The title of the paper is from the quote of Georg Simmel who more than a century ago argued for the importance of understanding the 'will to connection' as a crucial human feature. Since then much technological development has taken place and today we need to engage with this from the vantage point of the 'mobilities turn' (e.g. represented by Adey 2010, Cresswell 2006, and Urry 2007). Crucially, 'visibly impressing the path into the surface of the earth' is no longer sufficient evidence of connections and interactions since networked technologies create connections by 'invisible' linkages across time and space suggesting the we need to add 'digital connectivity' to 'physical proximity' in order fully to comprehend contemporary mobilities. This paper argues for a situational and everyday life perspective termed 'Staging Mobilities' (Jensen, forthcoming). It draws in particular on the works of Goffman and has been applied to mobility research earlier (Jensen 2010a, 2010b). According to the Staging Mobilities framework we should think of mobilities as carefully and meticulously designed and planned 'from above' as one might say. However, they are equally importantly acted out, performed and lived 'from below'. Mobilities are staged and people performing mobilities are engaged in social interactions of staging mobilities. In this perspective contemporary urbanism is understood as highly influenced by the staged mobilities of planning, design, architecture, governance systems, technological networks as well as by the social interactions, cultural meanings and the production of social order. Staging mobilities is a socio-spatio-temporal process designing mobile lifespaces 'from above' and performed mobile engagements and interactions 'from below'. Staging mobilities point at dynamic lived mobilities as they become manifest in relation to four key themes: The physical settings, material spaces and design; the social interactions; the embodied performances, and the networked technologies facilitating and underpinning contemporary urban mobilities. The paper presents the analytical model of Staging Mobilities in



general, but put focus on the dimension of network technologies in particular. Here the paper engages with notions of 'NetLocality' (Gordon & Silva 2010), 'CodeSpace' (Kitchin & Dodge 2011), 'Digital Ground' (McCullough 2004), 'Splintering Urbanism' (Graham & Marvin 2011) and the 'Sentient City' (Shephard 2011) in order to qualify the networked technology dimension of the Staging Mobilities framework.

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The construction of mobility types based on individuals everyday travels: experiences and outlooks

Julsrud, Erik

During the last decade people's everyday mobility have undergone important transformations related to the implementation of new communication technologies in combination with transportation technologies. The result has been a society that seems to move in the direction of becoming increasingly mobile (Urry 2007). The individual differences in mobility are, however, significant both related to range/distance and form. While some orient themselves toward mainly local travels relying on walking and/or biking, other regularly conduct long-distant travels with cars or aviation.

Understanding how people develop different patterns of individual mobility has been addressed as a key topic in much recent research in geography, media studies and sociology (Larsen, Urry, and Axhausen 2008, 2006; Silva and Frith 2010; Faulconbridge and Beaverstock 2010). New telecommunication technologies and wireless networks is strongly affecting on the nature and experience of travelling. Indeed, the emerging differences in personal mobility is by some observers seen as new indicators of status and position (Bauman 2000).

A recent stream of studies has worked towards construction of mobility types, i.e. classification of larger populations based on their attitudes to travels and general life styles (Lanzendorf 2002; Ohnmacht et al. 2008; Prillwitz and Barr 2011; Hunecke et al. 2007). Such mobility styles are highly valuable, as they help to understand how mobility takes on different forms in different groups in the society, and they may inform policymakers on how to suggest actions to promote more sustainable mobility to different groups. For media oriented studies, these typologies are important as they may help understanding the different ways that mobile media is adopted and used across larger populations.

This paper presents results from an ongoing project analyzing patterns of everyday mobility among Norwegians. In contrast to earlier attitude-oriented studies, however, this project is constructing mobility types on the basis of individual's actual everyday travels. Based on an exploratory cluster analysis of almost 29 000 travel diaries, four general mobility types for the Norwegian population are defined. The cluster analysis is based on information on close to 50 variables, including numbers of travels, range, choice of means of transportation and purpose. While two of the four types have a local orientation where use of private cars are predominant, one is oriented towards walking and public communication, and one is based on long distant business travels.



The main objective of the paper is; 1) to explain how travel diaries can be used to construct mobility types based on post-hoc analysis of actual travels; 2) to discuss important differences related to the everyday travels typical for each of the five groups related to gender, age, income and family situation and; 3) discuss the potential future use of such typologies.

The paper relates in particular to the theme “New methodologies for mobilities” research mentioned in the CFP to the conference. It is a contribution to the ongoing discussion about the construction and use of typologies in studies of human mobility. However, the paper also addresses how different groups in society hold different ways of mobility and faces different challenges when trying to change their behavioral patterns. As such, the paper also contributes to the theme “Transitions toward sustainable mobilities”.

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The social, spatial, temporal and cultural context of mobile communication. An experience sampling study of mobile communication in the US and Germany

Karnowski, Veronika; von Pape, Thilo and Humphreys, Lee

In social sciences, researchers commonly refer to the Theory of Planned Behavior (Ajzen, 1985) or adaptations like TAM (Davis, 1989), UTAUT (Venkatesh, Morris, Davis & Davis, 2003) or the MPA-model (Wirth, von Pape & Karnowski, 2008) to explain the use of new media by the users' perceived behavioral, normative and control beliefs towards the actual behavior (e.g. Bouwman, Carlsson, Molina-Castillo, & Walden, 2007). But these theories have one prominent shortcoming: they ignore the concrete situational context of usage (cf. Katz, 2001; Bouwman, Bejar, Nikou, 2012). This caveat becomes especially clear and relevant when analyzing mobile communication. While it can technically be used in almost any situation, research suggests that the social, spatial and temporal environments as well as other situational factors such as media access are extremely important for mobile phone use (Zhang, 2010). Research further shows that the use of new media depends on cultural factors, which may or may not be mediated by the situational context (Baron, 2010; Campbell, 2007; Ishii, 2004).

Our overall questions are

- (1) In which situations constituted by physical environments, media access and social dynamics, does mobile communication take place?
- (2) Which different types of situations can be distinguished?
- (3) Which services are used in which situations?
- (4) Are there differences between Germany and the US?



During the month of November 2011, we are conducting an experience-sampling survey among 100 students (50 students from the United States, 50 students from Germany). Developed in sociological research about the everyday life (Larson & Csikszentmihalyi, 1983), this method gives access to a representative sample of everyday usage situations (Yang, 2011, von Pape & Karnowski, 2012; for validity, see Boase & Ling, 2011). In order to collect a representative sample of experiences, every participant is contacted every day by a text message at a contingent moment between 8.00 am and 10.00 pm. The text message comprises the link to an online questionnaire, which is accessible via the mobile internet connection and is opened in the smartphone's web browser. The questionnaire has to be completed within two hours – after this time it is not accessible anymore. We will present our findings along the research questions and discuss their implications for further studies on the situational context of mobile phone use.

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Aeromobilities Communication in Flights under Crisis: A Conversation Analysis Approach of Pilot- ATC Discourse

Katerinakis, Theodoros

The modern flight aviation system operates as a communication process constructed, organized, regulated, and realized through human actions. Unpublished and intra-sector data as well informal or anonymous reports of 'aviation actors' demonstrate that communication problems have indeed cost lives or provoked major incidents. Incidents are violations of instructions or legal parameters that may or in fact affect the safety of operations. US Federal Aviation Administration (FAA) anonymous Aviation Safety Reporting System (ASRS) reveals over 60% communication problems, in reported cases. Communication in airmobilities environment, where location-aware devices are complemented by situation-aware communicative occurrences, unfolds in 'places of in-betweenness' that enable global mobility to occur (Parker, 2002, p.16). Various non-human actants collaborate with air-



traffic control systems and in-flight human actors to accomplish safe take-offs and landings (Harper & Hughes, 1993).

Earlier studies in the 1980s indicate that those communication issues contain problematic information transfer and exchange. Aviation human factors research describes the goal of all pilots “to get people from A to B, without disturbing or killing them”. Airplane flights are abstract representations of the basic model of communication (Shannon & Weaver, 1948; Wiener, 1954) in an ideal flight session situation. The discursive space of pilots and Air Traffic Controllers (ATC) is determined by operational structures and cultures, in a highly-mediated environment. Institutional interaction differs from ordinary conversation in sequential organization and actions that actors undertake. The role of ATC actor extends interaction to ‘outeraction’ (Nardi & Whittaker, 2000) when contextual features are negotiated through conversation. Cockpit as a context includes pilots, crew members, tele-present air traffic controllers, technological- mechanical devices and procedures. These participants are roles expressed with talk-in interaction. Human factors issues related to interpersonal communication have been implicated in approximately 70%- 80% of all accidents over the past 20 years, especially in the issue of task management (Jani C. & Wickens C. D., 2007). The cockpit system has to be tolerant to function and accomplish the mission even when faults occur. Most airline accidents are attributed to errors made by the flight crew (Loukopoulos, 2009). Most testimonies in ASRS and National Transportation Security Board database illustrate how critical communication is in aviation and aviation safety, from the cockpit-controller interface to coordination in the cockpit to cockpit-cabin interaction to the management of safety and creation of a safety culture (Krinovos, 2007).

This paper applies ethnomethodology (Psathas, 1990; Sacks, 1992) to analyze empirical interaction in flights characterized with an event or crisis using transcripts of real accident cases reported in FAA and Hellenic Civil Aviation Authority (HCAA), disclosed for the first time. Conversation analysis (Hutchby, 1998) is used to study the order/organization/orderliness of speech actions in discursive practices of aviation actors in emergency preparedness or resolve. Additional transcripts acquired from FAA, as well as landmark cases or air-incidents in US and Greek airspace are used to provide a comparison pool. Structured questionnaires are developed to reflect expert users’ opinions on ATC- Pilot discourse: fighter pilots of two HAF Squadrons, members of HCAA, and Air Traffic Controllers.

Situation awareness, workload, stress and trust, human error and reliability, decision making and problem solving are elements of human factors that are negotiated in flight conversation creating social affordances (Gibson, 1977) of aviation conversation. In this context, communicative problems like issues of reference, repetition, ambiguity, sequence breaking arise, as well as what counts as following Standard Operating Procedures/Rules of Engagement in time-critical situations focusing on language. Also, in the process, it will be examined how inner and outer identities and culture are sustained in aircrisis conversation.

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Location-based Apps and Allegories of Participation and Control

Leorke, Dale

Locative media has become increasingly removed from its origins as an avant-garde art form with the rise of location-based apps and tools for platforms like the iPhone, Android and handheld gaming consoles such as the Nintendo 3DS. With the increasing shift to these platforms, locative technology becomes shaped by the constraints and limitations of the devices for which these location-based applications are developed. As a result, in this paper I suggest that our way of engaging with urban space is significantly altered in ways that run counter to the Situationist-influenced ideals of early locative projects. I began by drawing on William Gibson's 'Blue Ant Trilogy' of novels as an analogy for the evolution of locative media technology. I then focus my discussion on location-based games, using the case study of two recent location-based game apps to discuss the ways in which devices like the iPhone alter the rules of the games and their potential to interact with urban space through locative media. I conclude with a discussion on issues of participation and control in location-based gaming projects, and recent debates around the potential for players to intervene in the rules of location-based games for ludic purposes.

Set in the contemporary world of ubiquitous communication technologies and post-9/11 paranoia, Gibson's 'Blue Ant trilogy' charts the rise of locative media from its avant-garde roots to a commonplace tool familiar to virtually anyone with a smartphone. In *Spook Country*, the second novel of the trilogy, locative media is used to repurpose GPS tracking software from its military origins for a radical art project that recreates celebrity deaths using holograms visible to anyone wearing an augmented-reality headset. By the final novel, *Zero History*, locative media has gone mainstream: corporate surveillance drones in the shape of stingrays hover above London, controlled via an iPhone app. The transformation of locative media in Gibson's novels parallels the growing prevalence of location-based technologies we're currently witnessing. It's now common practice for many people to get directions around the city on their smartphone, recommend a restaurant to their friends on Urbanspoon, and compete with friends for virtual ownership of familiar locales on location-based social networks like FourSquare. In particular, location-based games have become increasingly mainstream in the form of apps for the iPhone and Android: apps like WalkSpace and Situationist, both inspired by Situationist practices like the *derive*, encourage users to navigate and interact with the city in unconventional ways. Similarly, games such as *Shadow Cities* employ GPS technology for location-based renditions of familiar game genres like fantasy role-playing games. The proliferation of location-based games and tools on our smartphones and portable devices has meant that locative media has shifted from its radical origins in the locative art movement of the early 2000s, faithfully recreated in Gibson's *Spook Country*, to one more akin to the world of widespread corporate appropriation of the technology depicted in *Zero History*. As such, the potential for location-based gaming to transform the way we navigate and interact with contemporary urban space has been redefined. As theorists like de Souza e Silva and Hjorth (2009) and Drakopoulou (2010) argue, many location-based games are aimed at challenging and subverting the way we engage with urban space by bringing play into the public realm. I argue, however, that this potential is constrained by the shift to devices like the iPhone and Android. Although location-based gaming has been able to exploit the popularity and ubiquity of these platforms, I suggest they are substantially limited not only by the technological limitations of these technologies, but the unevenly dispersed geographic location of their users. As a result, in contrast to the growing 'mobility' and pervasiveness of play made possible by the shift to portable devices, these location-based gaming apps constrain the actions of their players by confining them to particular parts of the city most suited to the rules and logic of the gameplay. I discuss this using the case studies of two location-based gaming apps: *Shadow Cities* (2011) and *Zombies, Run!* (forthcoming 2012). Drawing on recent debates in game studies around the tensions between 'participation' and 'control' in videogames, I analyse how these location-based games extend forms of ludic control over their players' interaction with urban space. As such, I argue that in order for games such as *Shadow Cities* and *Zombies, Run!* to avoid these mechanisms of control they must become adaptive to players' actions and reflexively respond to the design of contemporary urban spaces.

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Sensory Media: Indirect Augmented Reality and Situated Simulations of Future Topics (Urban Planning)

Liestøl, Gunnar

Since the Virtual Reality hype collapsed in the mid 1990s the field of Augmented Reality has proved itself to be an experimental research tradition in steady growth. Augmented Reality has matured and become a more diverse platform expanding and moving beyond its Mixed Reality origin as described by Milgram and Kishino (1994). The recent emergence and availability of sensor-based and location-aware smartphones and tablets is challenging the original taxonomy of augmented reality the way it was characterized by Azuma (1997). With mobile sensory devices the mixed reality boundary is no longer residing at the level of the display. The frame of the display has itself become the border between the virtual and the real (Liestøl 2011a). These new configurations have been named Indirect Augmented Reality (Winter et al. 2011). A Situated Simulation is an example of this indirect kind of mobile augmented reality.

In a situated simulation there is approximate identity between the user's visual perception of the real physical environment and the user's visual perspective into a 3D graphics environment as it is represented on the screen. The relative congruity between the real and the virtual is obtained by letting the camera position and movement in the 3D environment be conditioned by the location, movement and orientation sensors of the device. As the user moves in real space the perspective inside the virtual space changes accordingly. This form of representation is then applied to simulate alternative versions of a given location; the simulation may relate to and display past, present or future dimensions.

In this paper we suggest the notion of Sensory Media and discuss how it makes possible new forms of mobile and location-aware representations, that is: Situated Simulations as a kind of Mobile Augmented Reality applications. Over the past three years we have primarily focused on past topics (ancient archaeological sites) in our explorations into the narrative and rhetorical potential of this form of representation (Liestøl et al. 2011b). In this paper, however, we move to the future mode and discuss practical experiments with the use of a situated simulation pre-constructing planned buildings in an urban setting. The case in question is a much debated construction project in downtown Oslo, Norway: The New National Museum (Forum Artis). The paper describes the design process of the simulation as well as how it has been received and judged by people involved in the planning and design of the new Museum.

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Wikipedia Zero and the Encyclopedic Ideal

McGrady, Ryan

The Wikimedia foundation announced Wikipedia Zero ("Zero"), a lightweight version of the encyclopedia that anyone can edit, along with a description of the strategy in place to support it, in an October blog post. The new site will strip away everything but an article's text, intending to enable faster transfers over mobile networks. With a significant part of the world accessing the Internet primarily through their phones, this news is exciting both for those who would have otherwise been unable to practically access Wikipedia's 15 million articles, and to proponents of the project who see strong prospects for its growth with this development.

Just as interesting is how the non-profit organization is reaching out to phone carriers to strike agreements which would allow their customers to access the text-only version free of charge. In exchange, the



carrier would be allowed to utilize the Wikipedia brand in marketing materials and could use the opportunity to sell mobile data plans to those who might not have seen the value previously. This represents the first major move on the part of WikiMedia into the mobile world in any official capacity, and included the hiring of new specialized talent onto its famously small team.

Founder Jimmy Wales often recites the unofficial mission of Wikipedia as: “imagine a world in which every single person on the planet is given free access to the sum of all human knowledge.” It is inspirational both because of its altruistic, utopian vision and because, at the same time, the tremendous success of the project and what it has accomplished in such short time allow us think said utopia may be possible. With 15 billion page views in August alone, Wikipedia has surpassed all expectations to become the only non-profit on the short list of most visited websites in the world.

For millennia philosophers, encyclopedists, scientists, and theologians have attempted or otherwise theorized projects that would allow anybody to access all knowledge. In this paper I place Wikipedia Zero within the history of the encyclopedia, not just as an generic artifact, but as an ideal that emblemizes our tradition of the revered “all-knowledge” work. Whether Varro and Pliny the Elder in Classical Antiquity, Diderot and D'Alembert in 18th century France, or Jimmy Wales today, the drive is much the same.

Likewise for H.G. Wells in the 1930s, who gave a series of talks on what he saw as a necessary endeavor: a global encyclopedia he called the World Brain which would enable a better social evolution and even world peace, made possible by new technologies and collaboration. Wells's idea was accompanied by a number of others in the same vein in the 20th century: Vannevar Bush's Memex, Paul Otlet's experiments with microfilm and documentation, Pierre Teilhard De Chardin's Noosphere, Pierre Levy's Collective Unconscious, and Marshall McLuhan's Global Village to name a few. Francis Heylighen usefully combines several of these concepts with his take on the Global Brain, but historically it seems we can see all of them as products of the encyclopedic impulse—the drive to unify human knowledge or human thought in some way.

But whether an encyclopedia artifact, a website, or some kind of networked intelligence, the abstraction “knowledge” is effectively infinite, so who decides what is included, how it is explained, and who settles disputes? Further, who is afforded access, and how? How does a shared global knowledge store affect the ways people interact in/with their physical spaces and with each other in those spaces? How can you contend with knowledge being so context-dependent and, as a whole, in a constant state of flux?

I argue that, if the goals laid out for Wikipedia Zero are accomplished, we will see the closest approximation to what humans have been tantalized by for as far back as we have records, although not necessarily within the same utopian teleological framework. The WikiMedia foundation's desire for special treatment from mobile phone carriers will allow more people to access the site, yes, but the content they will see may not adequately represent their cultural perspectives; people's learning curves for using and contributing will vary dramatically; and access can only be attained through a proprietary, controlled device over owned networks, by companies that may appropriate data, surveil, and push advertisements. Great answers are not yet available for most of these questions, but we are farther along toward realizing these visions than many people realize, so my aim is to explore the imminent conversations about whether we want to and how to preserve or adapt cultural practices, sovereign boundaries, terms of ownership, and other issues, gleaning lessons from the history of the encyclopedic ideal.

The Locative Communication And The Increase Of Relevance Of The Place In The Communication

Medeiros, Macello

How the use of the cellphone in the certain place could implement sense and meaning for it? The bluetooth zones, for example, sends information about a specific place, like a Magazine Store, giving to the customers a discount coupon for your purchases. This work aim to discuss how the Locative Communication is able to increase the relevance of the place in the communication through these practices that use the digital mobile devices. Firstly, we will distinguish this form of communication – the Locative Communication –, from the other forms based on the study of place in communication. In this work, the concepts of place and space are approached in different ways. “Place” is established using definitions from different authors, starting with the “fixed points in space from ‘things’ that are built or constructed at these points” from Martin Heidegger until the relations of



belonging perceived for Yi-Fu Tuan, passing by the “information flows” from Doreen Massey and the production of sense and meaning from Joshua Meyrowitz and Tim Cresswell. “Space”, on the other hand, has your basis in the classic philosophy with Democritus of Abdera (Atom Theory), passing by Plato (cwwra), Euclid and Aristotle until the modernity with Henri Lefebvre in his “production of space”. In this case, we can understand the space through two forms: as the receptacle, in your more abstract condition, and through the perspective more concrete, when it is definite from the relationship between “bodies”, according to Aristotle. This last one is closer to the concept of place used in this work.

The expression “place in the communication”, in turn, starts from this concept of place, however it is defined based on three criteria capable of establish the differences between the four forms of communication: the Local Communication, the Situated Communication, the Global Communication and the Locative Communication. The criteria are: 1. the type of interaction, 2. the technical means of transmission and 3. the contexts of production, transmission and reception of information. In the Local Communication, we have a type of face to face interaction through the primary orality, bringing together producers, transmitters and receivers in the same context. The Situated Communication begins with the emergence of the electric media that create a kind of mediated interaction and mediated quasi-interaction, separating the contexts of production, transmission and reception of contents. This scenario changes when the contexts are pulverized, interchanging the roles between producers, emitters and receptors from the rise of the Internet and mobile phones, creating a multimedia interaction characterizing the third form, the Global Communication. With the Locative Communication, some features of Local Communication is retaken as the contextualization of the producers, transmitters and receivers in the same place through the mobile-interface interaction with mobile digital devices, as can be seen in the bluetooth zones. Just as occurred with the characteristics of Local Communication, taken in part in the Locative Communication, we also can perceive an increase of the relevance of place in the communication (see figure attached), verified in such practices in the bluetooth zones as mentioned early in this text.

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Alternate Reality Games as Digital Orality: Looking to the Past to Inform the Future

Mouvery, Samara

Alternate reality games (ARGs) are complex, interactive, audience-assembled narratives that operate on the premise that the story is occurring in real life, in real time. Current research on ARGs tends to approach the phenomenon as it relates to game play, converging cultures, and the blurring of reality and fiction (Örnebring, 2007; Kim, Allen, & Lee, 2008). Some literature addresses protoARGs and conceptual precedents, but this historical assessment never goes past the print age (Szulborski, 2005; Alexander, 2005). No research, however, has looked further into the past and examined the connection between alternate reality games and orality. Many of the features that make ARGs unique (audience participation, community building, experiential performance, situational and action-oriented staging, etc.) are not only what separate them from many other computer-based games and



enhance their appeal but what seem to connect ARGs to communication in oral cultures (Ong, 1985).

An assessment of ARGs as a new form of orality would not be complete without understanding the ways in which the electronic context and online environment enable this phenomenon by sharing aspects of oral culture. ARGs are very much based in literate culture, despite their medium-crossing nature. However, new media, computer-mediated communication, and mobile technologies in general transcend the print and chirographic cultures that preceded them, and many of the ways in which they achieve this seem to reflect aspects of the oral tradition. For example, Warnick (2007) points out that new media often take a form that cannot be "isolated and read," that is instead "created in the moment for a specific time and circumstance" (p. 26). Warnick (2007) goes on to describe the non-linearity, dynamism, and transitory nature of Web content, which features "the user as a participant in the creation of meaning" (p. 30). Manovich (2001) emphasizes the modularity of new media in general, just as Ong's (1985) assessment of Homeric poetry emphasizes the formulaic nature of word choice in orality. Also reminiscent of orality is a new media object's ability to "[give] rise to many different versions" (Manovich, 2001, p. 36). It is in this environment that users encounter ARGs.

Though new media and computer-mediated communication may not duplicate traditional orality exactly, it is possible that, in the words of Manovich (2001), it "transcodes" our inherent tendency toward orality into a form of communication that recaptures many of the elements lost in the transition to literate and print culture. ARGs are a representative product of this transcoding, combining assorted elements of new media and narrative into a single, temporally-bound, even location-based, user experience. The alternate reality game, viewed from a historical orality-oriented perspective, may shed light on how communication in the digital age is paralleling primitive and historical elements of oral culture to form a "digital orality" that uses new media and mobile technology to reclaim deeply human communication traits lost to the print age.

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Race and Affect in the Membrane

Mulliken, Seth

As Janelle Monáe's musical concept multi-album project *Metropolis* opens, Cindi Mayweather is on the run from hunters who wish to extract her cyber-soul as bounty, punishment for falling in love with a human. Cindi's designation is Android No. 57821; she is one in a landscape of individuated bodies each designated by a unique number, but still an android, a constructed body made to match other constructed bodies.

This paper is an exploration of how the turns in theories of race in the last twenty years welcome new interpretations that challenge the idea of race as a singularity. In his article, "Racism: Towards a Structural Interpretation" Eduardo Bonilla-Silva locates the two poles of racial formation. The first, the 'essentialist' position, suggests that the meaning of race is found in inherent, natural functions; this could be the body, the brain, or the within culture or behavior. In the abandonment of essentialism, a possessing spirit has been freed, and it roams through the ether, searching for a new body to inhabit. With the introduction of identity politics, race moved toward what Bonilla-Silva calls the 'idealist' position. The idealist, the anti-essentialist definition of race suggests race is a fiction, constructed entirely in the realm of the social. The problem with the idealist position, as Bonilla-Silva points out, is that race becomes weightless, lacking in content. Here, the impact of race upon supposedly 'stable' structures like body or space can't be explained only by a content-less fiction. From here, issues of oppression and justice can become equally weightless.

It is here that theories of race currently stand. Bonilla-Silva, Paul Gilroy, and other scholars have presented



the challenge of how to talk about race within this knot of impacts and resonances. It is the conversation that this paper will enter. The analysis here will suggest that one of the ways through which to understand race is affect. In the effort to not dismiss the material impacts of race formation upon the body, without moving into essentialism, the project must turn to a re-thinking of what the body is, and how it is produced. Working with recent scholarship on race, including Bonilla-Silva and Gilroy, and affect, including Brian Massumi, this paper will explore race as an affective circulation. Rather than found in bodies or in abstract social constructions, race might be productively analyzed as the membrane between the material body and the abstract social construction.

This paper will explore race as a series of interactions and responses between material bodies and abstract social constructions. Race, as an affect, can perform two moves. First, it can suggest that race is not found in the body, but in the circulations of affect that produce and reproduce material bodies. Second, while this places race outside the body, it does return the importance of race's performance on the stage of the body. However, this is not just the physical flesh and blood body of the human that matters, but a complex of intertwined moves and mobilities that make and re-make many different types of bodies. In this way, race becomes a kind of mobility, a circulation that affectively defines the possibilities for movement and interaction of material bodies.

In order to think through these moves, this paper will use Janelle Monae's Metropolis project. One of the most visible edges of Monae's project is the relationship of the android, as a construct, to the domain of race. "She [the android Cindi] represents the MEDIATOR between the haves and the have-nots..." In Monae's work, race is not just an element of the story, but an affect, a product of the circulation and movements of bodies, materials. It creates and defines different materials as those bodies move through spaces. Cindi's chase that starts the story, a movement away from a pursuing threat, is also a movement of the affective body through seemingly 'stable' constructions: from android to feeling body, to a process of othering and subsequent unifying.

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Performing City Transit

Ng-Chan, Taien

"In modern Athens, the vehicles of mass transportation are called metaphorai. To go to work or come home, one takes a 'metaphor' – a bus or train. Stories could also take this noble name: every day, they traverse and organize places; they select and link them together; they make sentences and itineraries out of them"

– Michel de Certeau, "Spatial Stories"

City transit embodies the in-between. It manifests as a liminal phase, a non-place, and a performance space. There are few other urban places, where, if we must commute, we are forced into such close proximity to strangers for extended periods of time, where we are captive audience to advertising and to city streets going by outside the bus windows. We are subject to the smell of bodies, food (especially stops where, for example, there is a MacDonald's or a Subway near by), the mustiness of wet clothes on rainy days; we are forced to endure the rudeness of other people's cellphone conversations or too-loud music emanating through headphones. We can create our own bubbles to isolate the self from contact, through mobile media such as cellphones, mp3 players and other handheld devices, or through print media such as the daily commuter papers or books. Or, we can see the bus as a temporary zone of theatre, where narratives are constructed about the familiar strangers that one sees frequently on the same route; and a temporary community comes together for the length of time that one travels.



This essay looks specifically at the in-between spaces of city transit as a site of urban contact, and the behaviors that occur in such a space. I would like to further investigate the idea of commuting as a ritual, and how urban transit requires a type of performance related to transforming the self from a private to a public persona. In such liminal non-places, we are constantly shifting the lines between private and public; through collective and individual performances, we construct spaces, identities, and stories. I will explore the various ways in which one performs city transit, and in this context, I will also present my most recent work as a filmmaker and media artist. A multimedia website/mobile media piece, "Detours" takes the form of a series of appropriated and reworked city transit maps, using video, audio, drama, poetry and visual art to explore personal engagements with the city of Montreal. "Detours" is accessible through tablet computers and smart phones. My "City Transit" map has particular relevance to my essay. It consists of different itineraries for different bus routes in Montreal. You are meant to take a transit tour, to watch a story about strangers unfold as you are surrounded by strangers in the non-place of the bus and metro. The works presented here are optimally viewed or listened to in the places that inspired them, though they also beckon to the armchair tourist.

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Singularities of the use of location-based services in Brazil

Nicolaci-Da-Costa, Ana Maria and Matos-Silva, Mariana

Brazilians love ICTs and, even when their income is low, they devise ways to have access to them. This is what happened with the Internet. Computers and ISPs are expensive, but use of open-source local access networks in places (LAN houses) that charge little, helped solve the problem to a great extent. Cell phones are also expensive and mobile telephony services even more so. Once more creativity came into play and solutions have been keeping pace with technological developments. Among the most recent is the use of prepaid SIM cards from several operators to profit from the client-client free services offered by each operator. As a result, this huge country, whose population of over 192 million is divided by deep socioeconomic differences, now presents a relatively homogeneous scenario of use of ICTs. Almost everyone can have access to the Internet via computers and the number of cell phones – over 220 million – exceeds the number of inhabitants. Brazilians are also very sociable. Indeed, dense and intense sociability has been described as one of the main characteristics of the Brazilian people. Such intense sociability has moved online and is responsible for the country's leading positions in the use of social networks such as Orkut, Facebook and Twitter. Suffice it to mention that, in 2011, it was estimated that there were over 30 million profiles in Facebook and 27 million in Orkut. These are impressive numbers. The picture changes drastically, though, when smartphones and location-based technologies are analyzed. Figures are not precise and change constantly, but in February 2011 it is believed that only 10% of the country's population owned a smartphone.



Even so, 19 million is not a small number and sales of smartphones are reported to have grown 165% in the first six months of 2011. The more drastic change in the big-figures picture, however, has to do with location unawareness or strong resistance to location disclosure. Typically, Brazilians like it when the map shows where photos were taken or a downloaded app tells them what restaurants are nearby. But many are not conscious that this kind of information is based on the device's automatic transmission of their own location. Also typically, they use their devices chiefly for interactions in social networks (mainly Twitter and Facebook). Location-based social networks such as Foursquare, however, are ignored by most (Foursquare was estimated to have only 500.000 users in January 2011). Even more revealing is the fact that Brazilians seldom check in on Facebook (in Brazil, Facebook Places is still available) given that its use accounts for 54.5% of their activities on smartphones. Resistances to disclosing one's location are not confined to Brazilians. They have been reported to exist elsewhere. In the USA and the United Kingdom, these reactions have been attributed mostly to fears of loss of privacy and surveillance, which can be overcome if people feel that benefits outweigh risks. Resistance to location disclosure in Brazil, however, seems to be very different. Because they often live in violent cities, Brazilians' main fear is that of endangering their personal safety. This being a very realistic fear, it is hard to think of benefits that can outweigh it.

Everyone in Brazil knows that much of urban criminality is masterminded in prisons with the help of cell or smartphones. The bizarre ways conceived to introduce these devices in penitentiaries – women visitors carrying them in their vaginas, arrows (to which the devices are tied) being thrown over prison walls – are a testimony of their importance to crime. As no one can be sure of who has access to one's location, it is wiser to play safe. Even Brazilian Foursquare users are careful to avoid checking in home because, when they check in elsewhere potentially watchful criminals will know they are not home and their families will run the risk of receiving alarming phone calls – usually originated in prisons – saying they have been kidnapped and asking for ransom (these calls happen frequently). They also prefer to check in when leaving places rather than when arriving! One cannot say, however, that Brazilians never disclose their location. There is one type of location disclosure which is frequent, but unrelated to LBS. Location revealing messages are often sent to local versions of a Twitter profile which has proved to be an important source of relevant information in many sensitive occasions. These messages – usually reports about places that should be avoided due to violence outbursts, mass robberies of those caught in traffic jams, flooding, important accidents, etc. – are, then, retweeted to the profile's many thousand followers. Such location disclosure, however, aims at a major benefit: the security of many.

Advertising and motility: preliminary notes on mobility experience through global messages

Nogueira, Maria Alice

Communication is, in principle, mobility. As we communicate something to someone we are in fact dislocating signs, messages and information from one point to another. In the contemporary world information is mobile; the various means through which it circulates are mobile; and so are the consumers of information. How to account for these three dimensions of mobility – namely information, means, and consumers – is a pressing challenge for social communication activities as journalism and, in particular, advertising. That is also this paper's central concern.

As an integral part of the movement of objects (Urry 2007: 47), advertising operates as a "transfer area" (McCracken 2003: 101) in which objects are symbolically re-signified to materialize the culture in which they are inserted. In a social context where mobility is seen as a paradigm, i.e., as a fundamental condition of everyday life experiences (Urry 2007, 2010), the contemporary compulsion to mobility has significantly been appropriated by advertising as a strategy of transformation of the product and/or brand into a particular consumer object, itself an object in circulation.

Hence, the search for a fixed target – not only in terms of identity but also location, by means of impersonal and static media – amounts to confining consumers to restrictive limits of time and space. The very marketing activity of positioning the object or brand by offering the consumer a single perspective on that product (Ries and Trout 2002) is likely to fail, given the current globalised circulation of information and diversity of consumers who are bound to have contact with that product worldwide.

Advertising can thus be seen as the point of intersection of Urry's (2007: 47) 'mobilities': the physical mobility of consumers and the imaginative mobility of signs; the actual movement of objects and the virtual mobility of messages and images. As it reaches beyond its immediate commercial objective of promoting a product,



the discourse of advertising becomes instrumental in providing a potential for movement, or a potential capacity of the message, the product, and the targeted consumer to be mobile.

This paper puts forward the view of advertising as a system which attributes movement to objects through communication so that it becomes a vehicle for the consumer to experience the world on the move, even if only virtually or imaginatively. Therefore, advertising is here not seen as a mobility system but rather as a system of motility, or potential for movement (Kaufmann 2002), as it would offer access to mobility to the target audience of marketing communication. For Kaufmann, motility can be defined as: 'the way in which an individual appropriates what is possible in the domain of mobility and puts this potential to use for his or her activities' (Kaufmann 2002: 37; italics in original).

As consumers have access to goods through advertising, they feel they are enabled to move among the various options of mobility offered by the globalization of markets. Kaufmann (2002: 40) goes on to state that the propensity for mobility is gaining importance given that it may, in principle, be appropriated by everyone. However, he also points out that financial, political constraints and cultural capital can be motility determinants, limiting the range of options and possible choices in terms of opportunity and projects.

It is significant that some products or brands traditionally taken as non-mobile have already shifted their campaign focus toward motility, presented as the products' intrinsic feature and/or main benefit. This paper – which is a brief report on an ongoing research project – intends to offer a tentative analysis of that relationship between global advertising and motility in the Brazilian context.

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Amelia Earhart Is Not Dead (Yet): Disappearance As Medium Of Mobility

O'Grady, Julia

After the first four heavier-than-air flights by the Wright Brothers in Kitty Hawk, NC in 1903, pilots such as Charles Lindbergh, Wiley Post, and Amelia Earhart popularized the practice of aerial milestones, the width of the United States, the Atlantic Ocean, and around the world (Banner; Corn; Wohl). The discourses representative of such aerial milestones constitute an evolving social imaginary of flight (Taylor; Warner), one that is foundational to aeromobilities scholarship (Adey; Cwerner, Kesselring, and Urry). I will focus on Amelia Earhart's Equatorial Flight of 1937 through its dominant discourse of "disappearance."

In 1937, Amelia Earhart piloted 22,000 miles of a planned equatorial route around the globe. On June 1, Earhart flew from Miami, Florida along established flight paths in South America and on less traveled routes across the Atlantic Ocean to Senegal, Ethiopia, and Pakistan. On July 2, Earhart and her navigator Fred Noonan took off from Lae, New Guinea with the intention of refueling at Howland Island in the Pacific Ocean. During the approach, Earhart radioed they were flying at 1,000 feet and running low on gas. Her last transmission was recorded at close proximity to Howland Island. Soon thereafter, the United States Navy commenced a four million dollar search for the plane, the most expensive oceanic search ever organized. The plane and its artifacts have never been found.

Although Earhart was declared legally dead on January 5, 1939, accounts of her life and the equatorial flight are typically conveyed through discourses of disappearance. Brief biographical statements include "missing" or "uncertain" next to Earhart's last recorded flight date on July 2, 1937. Common theories include a plane crash into the Pacific Ocean or Earhart and Noonan perishing later on a nearby island. Other claims include a scenario that Earhart was commissioned by Franklin Roosevelt as a spy, was executed by Japanese Soldiers or that she returned to the United States and assumed the identity of Irene Bolam, a banker in New Jersey.

While this research project focuses on an event outside of the contemporary moment, public memory scholarship expands the field of inquiry to include theoretical interventions around remembering and seeing



present concerns reflected in articulations of the past (Balthrop, Blair, and Michel; Dickinson, Blair, and Ott; Hariman and Lucaites). In essence, the equatorial flight as an aerial milestone represents a medium of mobility to be explored through discourses of disappearance. In the paper, I will explore how the Earhart flight as a discourse of disappearance reflects a common strategy during the 1930s of sending women as pilots and passengers up into the air to promote the safety of flight. Second, discourses of disappearance support renderings of Earhart's last flight as permanently mobile in interpretation. Finally, discourses of disappearance seem to influence scholarship in articulations of Earhart as "transcendent" (Jensen, Doss, Janssen, and Bower).

Aeromobilities scholarship includes references to discourses of aerial milestones. Amelia Earhart's Equatorial Flight has been articulated to ongoing discourses of disappearance. As text representative of a social imaginary of flight, I will examine discourses of disappearance as they relate to gendered performances of safety and narratives of uncertainty. I am eager to share this research with other mobilities scholars who are interested in engaging in dialogue at the intersection of aeromobilities research and the social imaginary of flight.

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Night-Time Travels and the Security Risks of Mobile Phone Usage in Nigeria

Olawuyi, Ebenezer

Night-time travels in Nigeria are generally perceived to be safer, faster and smoother for mobility. The preference for this period is occasioned in the main by the gridlock of traffic which makes daytime travelling a nightmare. Travelling by night is especially carried out by traders who for reason of time embark on business trips in order to arrive their destinations by the first light. However, armed robbers have taken advantage of the mass movement of traders at this period to launch attacks on commercial transports which travel in convoy to different parts of the country at nights. As parts of measures to mitigate the increasing attacks on night-time travellers, the commercial transport of operators enlisted the services of armed military personnel to travel with passengers and passengers switching-off their mobile phones as soon as the buses take-off. The thrust of this paper is to interrogate the effect of the ban on the use of mobile phones by travellers in the course of the journey, because mobile phones can also serve as safety measures in emergency situations. This paper is of the opinion that rather than deprive travellers the use of their mobile phones in transit for security reasons, commercial transport operators should put in place strategies that could screen calls to determine the ones that are of security risks.



Transforming Cities, Transforming Locations

Ozkul, Didem

Mobile communication technologies, especially mobile phones (because they have the highest rate of diffusion among other ICTs worldwide and of their pervasive nature), have been, and are still being argued to change how we perceive space and time, and that they demarcate the lines between public and private space, work and personal life, as well as new patterns of coordination of social networks (Ling and Campbell, 2009). Even if these changes can be easily observed in the urban everyday life, and even sometimes taken for granted inasmuch as we don't notice any significant change, continuing transformations in the perception of space and time have drastically influenced what a city is, how it is characterised and what it represents and embodies for its inhabitants.

Even if with the introduction of mobile communication technologies, distance and location information have slowly started to lose their importance as obstacles against communication, higher mobility rates along with the uncertainty in people's whereabouts in everyday life have caused an increasing interest in location information and distance, allowing them to regain their importance. On the contrary to what Wellman (2001) has once argued, mobile communication technologies and mobile phones in particular do not only 'afford a fundamental liberation from place' (p.238), they simultaneously afford a form of attachment to and dependence on one, or even more, different place(s). As Gumpert and Drucker (2007) argue with the increase in our ability to communicate to any place from anywhere at any time, we become dependent on location by others or ourselves, and they add that we somehow 'require global positioning to locate the mobile "us" in physical space' (p.11). This dialectical, and rather paradoxical, relationship between mobility and precise location has started to be used as a recent depiction of the urban space, the augmented cityscape as well as adding a new layer of information added to the city. Now, the cities don't end with the visibly observable. It contains information from various networks, of both people and devices, and what we now see is actually well beyond what is in front of us (Gordon and de Souza e Silva, 2011). Mobility in everyday life leads to an abstract space as it entails and somehow demands uncertainty in the definite location and this is the reason why it is sometimes referred to as "placelessness" or is associated with having "no sense of place". However as this study argues, location-awareness can lead to a lived in and experienced/constructed space even if these places are perceived to be mobile and sometimes hybrid. Thus, in contrast to the view that media in general lead to inauthentic experiences of space, this study claims that with the use of location information in smartphones people can actually create their own authentic/genuine experiences of different places.

Within this framework and focusing on the fact that location information is not only specific to location-awareness and/or location-based services or apps, this research analyses location information usage (disclosure, navigation) among smartphone users based on 30 in-depth interviews conducted in London, UK in 2011. The sense of place and how the users build and/or change their perception of space according to "being always located" while they are on the move also constructs one of the concerns of this study. It focuses on locative features of smartphones including various apps and maps as well as smartphone usage specific to certain places and situations.

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Colanders in the Cold War: Mobile screens and the screening of mobility

Packer, Jeremy

My presentation will examine two of the earliest computerized and automated systems for tracking mobility on a continental scale, SAGE (Semi Automatic Ground Environment System) and BRANE (Bombing Radar Navigation Equipment). Considered together, these overlapping systems initiated the infrastructural capacities and the governing logics for our contemporary location aware technologies. Using extensive historical examples, including IBM promotional films and U.S. military documentation, I will argue that our present is still oriented according to surveillance and control systems that were originally created to respond to the fear of Mutually Assured Destruction at the height of the Cold War. By drawing out the tendencies of what I call "screening technologies," it will be suggested that two types of interlinked screens accomplish the controlling of mobility. The first type of screen (as numerous scholars have noted) has its roots in the radar screen; the precursor of the computer screen as well as the mobile screens found in everything from GPS units, to mobile phones, to iPads. These human interfaces are nodes in vast apparatuses that produce real time data that can be stored, processed, and manipulated at the point of contact between human and screen. The second type of screen is more abstract, yet manifests in such simple devices as mosquito netting and colanders, as well as such hypothetical technologies as the Strategic Defense Initiative, better known as the "Star Wars" program. These are screens that work to separate desirable from undesirable elements, determining what can enter or leave.

The focus on SAGE and BRANE allows for an understanding of how the military industrial complex developed our means for mobile location aware technology (screens in the first sense) as part of a desire for comprehensive global screening (the second sense). More generally these examples will be used to suggest that current consideration of mobile media, cloud computing, ubiquitous computing, wearable computing, and locative media might be newly theorized and differently politicized. I propose sieve analysis as a method for understanding these dual imperatives and suggest that the notion of the apparatus is a means for bringing together processes and technologies. I want to address how and to what ends the orientation of life toward screening has been part of a long-term political project with its roots in the Cold War, but which becomes more finely processed eve

Inmobility project: spatialities and visibilities of the everyday life

Paraguai, Luisa

Mobile communication, evoking characteristic ubiquity and accessibility, has permeated all domains of our everyday life. People have moved around actualizing different networks, physical locations and data nodes configuring a complex structure, programmed and self-configurable at the same time. The space and time relationship will be discussed articulating different protocols of communication and modes of distribution not coordinated as other topographies of occupying the urban spaces. At the end, the immobility project, to be presented, is concerned with modes of visibility of those temporary networks, physical and digital, juxtaposed by synchronous live messages, phone calls, and exchanged files. Nowadays, the mobile technologies have proposed to users other connections not proximal and the possibility of being temporarily 'on the move', creating gaps and holes, other dimensions and domains to experience their everyday routes. The ability of using mobile devices has demanded from people to comprehend and accommodate technologies on time and space. For example, the 'nine to five' culture, in big cities as São Paulo, using mobile and GPS devices, has engendered interspaces and reorganized physical arrangements, intertwining different space and time models.

Technological and social organizational convergence has taken place between physical and technological systems and gradually has formed a new ambient, in which the ability to connect from wireless devices has become the predominant form of communication. The immobility project is concerned with the meaning of materiality and those artefacts through the roles they play in different territorial networks. "In a world of networks, the ability to exercise control over others depends on two basic mechanisms: the ability to constitute networks, and to program/reprogram the networks in terms of the goals assigned to the networks; and the ability to connect and ensure the cooperation of different networks by sharing common goals and combining resources, while fending off competition from other networks by setting up strategic cooperation." (CASTELLS, 2009, p.45) The users, downloading the mobile application, will be able to capture images, videos and sounds, and to actualize in real time distinct audio and visual narratives, structured by computational application. The proposal is to visualize our daily actions as dynamic collaborative networks, creating narratives to explore modes of recognition and presentation to



others. From those visual texts (figure 1, figure 2) we can exercise parallel dimensions, a "fluid choreography" (FEATHERSTONE; THRIFT; URRY, 2005, p.8) evoked by unusual perspectives and angles to question the feeling of belonging to urban spaces. With the immobility project we want to comprehend the tension between distinct materialities of the relationship between space and time simultaneously operated by people through mobile devices. The intrinsic operational mode of the mobile networks that conforms some informational patterns – computational and bodily, electromagnetic and spatial, has dislocated the usual understanding of shapes and spaces to propose other articulations. The blurring of limits and the possibility of compounding physical spaces and informational contexts have evoked other dimensions for people's interaction; the narratives proposed have highlighted the mediated practices through mobile technologies to create particular visual objects and subjects in particular spaces. The perception and action relationship has presented itself as a phenomenological experience in which the individual and the ambient – the situation produced, are included by media.

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Mobile Internet for Mobile People: Armenian Labor Migrant Families' Use of Mobile Internet

Pearce, Katy; Slaker, Janine and Ahmad, Nida

This study examines the use of mobile Internet by Armenian families affected by labor migration. We find that families use mobile Internet to promote connections between Armenian labor migrants and their families.

Armenia faces a significant labor migrant, with 8-14% of households having a labor migrant. (Grigorian & Melkonyan, 2011; Minasyan et al., 2007) Most of these migrants go to Russia on "khopan", a term that means work in "virgin lands" (a Soviet era push to entice Western Soviets to go to Central Asia to settle sparse land). In this pattern, men leave from January to August for seasonal work in construction and agriculture and return between the months of September and December (Heleniak, 2008; Minasyan et al., 2007).

While many have examined the ways in which migrant workers use information and communication technologies to maintain ties (e.g. Madianou & Miller, 2011; Parrenas, 2006; Yang, 2008), we posit that households with a labor migrant, demographically, would not be likely consumers of ICTs in Armenia. The presence of ICTs in these multigenerational households is having an effect on familial relations.

Moving into a new stage of research which builds upon the small but active community (e.g. Bosch, 2008; Chigona, Beukes, Vally, & Tanner, 2009; Donner & Gitau, 2009; Donner, Gitau, & Marsen, 2011; Kreutzer, 2009) of researchers studying device-driven differences in Internet use, this study has 3 goals: (1) to determine the demographic differences between households with a migrant worker: non-users, mobile-only Internet users, PC-only Internet users, and those that use both mobile- and PC-based Internet; (2) to describe the activities which migrant worker household Internet users accessing from different devices engage in; and (3) to visually demonstrate fictionalized but tangible demographic and activity representations of typical migrant worker household users from each category, augmented with qualitative data from researchers' ethnographic observations, member check verification interviews, and focus groups.

The value of producing personas is threefold: (1) visual representations of quantitative results bridges methodological divides, (2) personifying results allows for the research context, in this case a developing country, to be effectively conveyed, and (3) with the interest in mobile Internet for development and policy purposes, we welcome a broader audience and wish to make our findings as accessible as possible.

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Understanding Identity within the It Gets Better Project

Phillips, Laurie

On September 21, 2010, Dan Savage posted a video on a newly-created YouTube channel (Advocate.com, 2010). Started as a vehicle for reaching suicidal and at-risk lesbian, gay, bisexual, and transgender (LGBT) youth, the online-based It Gets Better Project (IGBP) has received over 25,000 videos from participants worldwide.

Offering media producers and consumers the ability to "extend our senses beyond the range of our body's geographic environment, introducing us to people and places, sights and sounds" (Grusin, 2009, p. 61), YouTube is a rich site for understanding identity construction in the twenty-first century, particularly among marginalized populations like the LGBT communities. As Thornton (2009) argued, YouTube permits "a new cross-cultural dialogue and the (re)creation of multiple texts" (p. 65). While the social media site has been studied in the context of coming out narratives (Alexander & Losh, 2010), online dating profiles (Lazzara, 2010), and the LGBT communities' responses to a hate crime (Pullen, 2010), little published research has surfaced on lesbian identity as projected within YouTube. Moreover, within media research – both traditional and new media – few researchers have explored Collins' (2000) matrix of domination, defined as "the overall social organization within which intersecting oppressions originate, develop, and are contained" (p. 228).

The objective of this study is to understand how self-identified lesbians project identity through the IGBP and if and how Collins' (2000) matrix of domination manifests in these videos whereby race, class, gender, and sexuality intersect. Ethnographic content analysis will be employed in this study, a method that Altheide (1996) explains as the inductive analysis of both the cultural production of artifacts as well as the context in which they were created. Ethnographic content analysis relies on the use of purposeful sampling (Altheide, 1996; Creswell, 2007), and a purposeful sample of self-identified lesbian IGBP videos will be used in the study.

Fitting into the larger context of online participatory culture research (Brabham, in press; Jenkins, 2006; Postigo, 2009; Rheingold, 2002; Schäfer, 2011; Shirky, 2010), this study has the opportunity to add to our limited understanding of how marginalized groups use social media tools to express identity on a global scale. Although ethnographic content analyses have been conducted across a variety of topics (Altheide, 1981; Hindman, 2003; Stokes, 2007), this study represents one of the first known studies to analyze YouTube videos through this method.



Contributing to the topical and methodological expansion, this study also allows for the theoretical application of the matrix of domination to new media.

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Moving Between Epistemologies: Advancing a Mobile Research Agenda

Powers, Jillian

In this paper, I examine a newly emerging paradigm in the social and humanistic sciences. This 'mobility turn' challenges researchers to think beyond static boundaries and look towards the systems of motion increasingly significant for shaping social life. Yet, I argue, recent research in mobility has not gone far enough to explore intersections within mobile areas of study. This article traces the static foundations of sociology, cultural/postcolonial theories of movement, the emerging mobility turn, and then teases apart the multiple forms of movement occurring simultaneously within tourism and diaspora. While these two areas are presented as crucial for mobilities research, they are currently under theorized. Research within the mobility turn must incorporate the dialectic within diasporas as global postmodern movers and traditional land-based primordial communities and the role of tourism as a system of movement with its own transformative assumptions and agendas. I present one area of intersectional mobilities gaining popularity and therefore requiring attention and analysis—homeland tourism. A mobilities approach is perfectly suited to examine how tourism, as a system of motion, articulates the significance of place, the meanings people bring with them, and the expectation of transformation upon return—or the role of the mobile imaginary and its relation to the tourist subject and subjectivity. Only by deploying a mobility paradigm and a mobile methodology can social scientists examine how systems of motion interact with meanings of motion to understand the persistence of place-based grounding and global imagined communities in an ever increasing networked and mobile world.



Before the Thin Blue Line: Mobile Surveillance in Medieval Policing

Reeves, Josh

As political scientist Elmer D. Graper reflected in a popular turn-of-the-century police administration handbook, “The well-groomed, uniformed policeman so conspicuous in our cities of to-day is the product of less than seventy-five years of urban development” (1921, 1). Indeed, what we have considered in the twentieth and twenty-first centuries to be a proper police force was unknown in Europe until Robert Peel founded the first metropolitan patrol in 1829. Since that time, communication and transportation technologies have had a tight-knit relationship with policing, and well-equipped urban police forces are routinely on the very cutting-edge of technological development. Indeed, many advances in communication and surveillance technologies arose to satisfy the demands of the police and military. The semaphore line (Crowley and Heyer 2003, 123–25), the telegraph (Carey 1992; Giles 2002), and the two-way radio (Packer 2008, 161–88) are only a few examples of the revolutionary changes in communication that patrol demands have fueled and promptly benefited from.

While much scholarship has focused on how nineteenth-, twentieth-, and twenty-first-century technologies have impacted policing behaviors (Gottschalk 2007; Mladek 2007), relatively little attention has been paid to the ways in which police mobility was impacted by earlier technological change. In fact, several scholars (Fogelson 1997; Herbert 1996) have too quickly dismissed the “unsophisticated” or “haphazard” policing technologies of the pre-patrol era. In response, this presentation examines how the burgeoning state in medieval England technologized the bodies of its subjects, turning each individual into a mobile policing/surveillance apparatus. Without the funding and pressure of a modern nation-state, after the Norman Conquest the Norman ruling class—in order to maintain order and extract financial restitution from the conquered Anglo-Saxons—devised creative and harsh ways to make the Anglo-Saxon population police itself. Old regimes of stationary surveillance quickly faded in importance and were bolstered by mobile surveillance teams composed of lay citizens. After the Romans’ withdrawal from Britain in the fourth century, the English used Roman military watchtowers as their own military and police surveillance sites, utilizing them to keep an eye not only on their long, vulnerable coastline, but also on potential criminals within the community. After the Norman Conquest, when the Anglo-Saxons were threatened with collective punishment for crimes committed in their communities, surveillance models changed: individuals were forced to organize their labor into community police patrols. When surveillance moved from the watchtower to “the ground,” community policing patrols had to be organized around new technologies. At first these patrols were organized around the oral “hue and cry,” by which scattered individuals would scream when a crime was committed or a criminal was spotted, allowing patrols to coordinate their mobility only within a very limited range. New aural technologies, however, soon allowed for the expanded coordination of these patrols; when the police horn was adopted in the fourteenth-century, for example, it allowed disparate communities to share coded communications between one another while also permitting patrols within the same community to simultaneously “cover” more territory (Critchley 1967, 1–8). This “hue-and-cry” method of police organization, in various technologized forms, was central to English community policing practices until the advent of the modern patrol in the nineteenth century. From the oral “hue-and-cry” to the print “Wanted” poster, from the watchtower to the police horn, and from the development of roadways and the mobilized enforcement of the newly written common law, advances in communication and transport revolutionized the ways in which these ad-hoc patrols organized their conduct. This presentation examines the impact of the most significant of these technological evolutions, contributing to our understanding of how police mobility and community surveillance were governed in the Middle Ages.

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Absent Community and Location Unawareness in Public Places - (Attributed) Attention to Media and Involvement in Surroundings –

Roll, Julia

Currently, the consequences of media use in public places – namely the distraction of attention into a state of absent presence (Gergen, 2002; Keppler, 2005; Meyrowitz, 2001) up to an absent community – are not deeply explored. Seen within a theory of mediatization (Krotz, 2003), technological progress supported the change of the individual from a stationary to a mobile recipient (Wilke 2005). Switching between different activities during the day (workplace, home, social activities) people perceive the movement through public places as wasted time. However, the use of digital and mobile media like MP3-players, laptops or mobile phones allows them to fill such time spaces (Hulme & Truch, 2006).

In general, both friends and strangers (could) come into contact. Therefore present other people have to be considered by a media user (Hoeflich & Kircher, 2009). Just as interaction is basing on common rules, the public space is social constructed and is therefore containing special behavior norms (Korosec-Serfaty, 1996; Lofland, 1998).

Regarding the existing research in the field, the scientific community widely accepts the proposition that media usage is always requiring attention in different forms and constellations – either seen as ‘immersion’ or ‘transportation’. Due to the limited capacity of the human brain for processing information (Styles, 2006), human beings are able to divide attention into several processes and cope with multitasking up to a certain degree. I assume that especially digital and mobile media and its functions absorb attention and do establish communicative respectively virtual islands. Sometimes, an individual even gets unaware of the location. Complying with the given interaction rules in a public space even the minimum of attention that should be allocated to the environment (Goffman, 2009) is filled by media usage. Therefore, the use of media in public is always connected with consequences.

Starting from there, a comprehensive project containing several empirical research steps is currently running. The in-depth analysis of the pre-study strongly indicates that media is often strategically used to (self-) isolate media users from specific environments – media serve as communication signal. Basing on this, the second empirical step includes at least 10 in-depth interviews until January 2012, using the qualitative paradigm and research style approach “Grounded Theory” (Glaser & Strauss, 2010).

My research questions are: To what extent are users of digital and mobile media aware of the fact that they are distracted from their public environment? How aware are these media users then that they perform as empty shells, prisoned in the virtual world of the medium?

This paper analyzes how media using changes the urban space and its social arrangements through the withdrawal of ‘involvement’ (Goffman, 2009). Extending Turkle’s (2011) assumption that people prefer to maintain relationships via media than face-to-face (the virtual world is more controllable – relationships are more superficial and less associated with consequences because of the prevention from a physical contact: just log off or shut down your mobile device) I argue that the city will get psychologically depopulated and socially isolated.

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Virtual Daylighting: mobile media and Montreal's buried rivers

Sawchuk, Kim

Virtual Daylighting (V-Day) is a research-creation project investigating the lost and buried rivers that once traversed the island of Montreal. Put simply, daylighting is the process in which the pavement is peeled back and a river that has been buried underground is returned to the surface to create new urban green spaces. One hundred and fifty years ago, as Canadian cities became industrialized, urban rivers were used as conduits for human and industrial waste. In the fight against very real epidemics, these waterways were buried. Using the capabilities of a 4G mobile phone, the V-Day project gives users "virtual" access to the trajectories of five underground river systems, on the island of Montreal. In Virtual Daylighting, these routes are being 'reseeded' with robust multimedia content that draws attention to the absent, yet often still lively presence of these rivers and streams. Founded upon a custom-built application for mobile devices (The Lost River Finder) the V-Day application opens the door (or manhole cover) to a virtual museum or gallery-without-walls, potentially in synch with a local environment that unfolds as users move through the space, cell phone in hand.

In this paper I will discuss the first iteration of the project, which will be presented at DHC Art (Montreal) in February of 2012. The research will be situated within the context of larger debates in mobility studies on the significance of the concept of "information territory" (Lemos, 2010), and the politics and aesthetics of locative media (Kalnins, 2004; Galloway & Ward, 2006; Tuters & Varnelis, 2006). I will also reflect on our use of the term "virtual". In Virtual Daylighting, story is connected to place, with an understanding of place as an active and living interface that is integral to our practice of designing for a locative media experience that considers users in motion. In this sense, place functions as a territory for interaction, what we term "the volatile interface". In Virtual Daylighting, our intention is to treat the physical territory of the earth's surface and the lost river systems as an active inter-actant in the assemblage of networked situations that come together when one stages a locative media event. The ephemeral quality of locative media is linked to the invisible overlay of information or layers of annotation in geographical space, what Terri Rueb has compared to "trails left in freshly fallen snow" (as quoted in Tuters & Varnelis, 2006, p. 2; see also Longford, 2006). Our deployment of mobile media technologies and our use of location-based media practice intentionally blurs past and present moments. Historical fragments can be pieced together and accessed through the small screen by users who are invited to move through a particular place, and to overlay one location onto another, using the capabilities of augmented reality for the mobile phone. As such, the movement through place may create a temporal and spatial disjuncture in which the present is disrupted by the past, at the same time as the past is revived into the present. In this sense, I take a page from the book of Walter Benjamin (1968) who suggested that "[t]o articulate the past historically does not mean to recognize it 'the way it really was'". It means to "seize hold of a memory as it flashes up in a moment of danger," and to also ruminate that the past is infused by the present: "History is the subject of a structure whose site is not homogeneous empty time, but time filled by the presence of the now".

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Re-imagining Place Attachment through Location-Based Social Networks

Schwartz, Raz

@IAmAru: "I feel like I'm betraying my @foursquare mayorship by going to the other Starbucks"

For @IAmAru, being the mayor of a specific Starbucks carries special meanings. Although all other Starbucks have the same décor, same menu and same background music, he continuously chooses to go to this particular one just to maintain his virtual Mayor title. But @IAmAru emotional tweet is hardly a rare example; it portrays a growing tendency in which location-based services redefine users connection to the physical places they visit. What are the elements, therefore, that virtually connect someone to a certain physical place? Why do people feel an intimate attachment to a specific place by using these applications? And how do location-based services promote users to virtually chronicle their everyday endeavors?

Several efforts have been made to theorize the use of locative mobile media, if by considering the virtual interactions as representation of real life action, portraying a significant difference between the virtual and physical realms, or by representing them as a form of hybrid interactions that combine both physical and virtual traits (de Souza e Silva and Sutko, 2011; Humphreys, 2010; Gordon and de Souza e Silva, 2011). Due to the novelty of the technology and the social interactions it enables, this field of study requires further theoretical frameworks that might offer new perspectives.

Drawing on an interdisciplinary theoretical concept called 'Place Attachment', that was conceived during the late 1980s, following by an analysis of interviews I conducted with twenty five foursquare users from 3 different cities in the US (New York City, Pittsburgh and San Francisco), I examine how the use of this service establishes a stronger personalized connection to a physical place. By applying the 'Place Attachment' theoretical framework to the study of location-based technology, I offer a new lens through which we can articulate the implications these services might have over local connections between people and places.

The term 'Place Attachment' represents an interdisciplinary research field originating from different studies in anthropology, architecture, family and consumer studies, folklore, psychology, sociology and urban planning. It is the symbolic relationship created by people who give culturally shared emotional meanings to a particular place that provides the basis for the individual's and group's understanding of and relation to their surroundings. Thus, place attachment is more than an emotional and cognitive experience, and also includes cultural beliefs and actions that link people to place.

In her seminal work, Low, an environmental psychologist describes a theoretical typology of place attachment (Low and Altman, 1992). Drawing specifically on her definitions of (1) Linkage through both religious, secular pilgrimage, celebratory, and cultural events, (2) Narrative linkage through storytelling and place naming, and (3) Economic linkage through ownership, inheritance and politics, I examine users online and offline behavior such as fighting over a foursquare mayorship of a coffee shop, leaving tips for other visitors to read and gathering a group of users in a certain place and time to receive a special virtual 'swarm' badge.

For example, user-generated events such as the foursquare 'super swarm' badge party



(superswarm.posterous.com) that took place on Thursday, October 7th 2010, at the Jewel Bar in London perfectly portrays Low's notion of secular festive events that promote place attachment. This event gathered more than 250 users, created local friendships, and was later extended to future events that were all documented through the users check-ins, blog posts and photo galleries on flickr .

Studying these emerging virtual-local relationships of people and places in light of concepts of 'Place Attachment' enables us to better understand users actions, and explore how, in turn, these practices strengthen users connection to a physical place, might promote the assimilation and participation of users in their local community, enhance relations with other users and fortify the existence of a virtual-local identity.

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L.A Re.Play: Mobile Network Culture in Placemaking

Sheller, Mimi

This talk will present the outcomes of L.A Re.Play, a location-based mobile public art exhibition that Mimi Sheller and Hana Iverson are co-curating in Los Angeles in February 2012, to accompany the double session on Mobile Art: The Aesthetics of Mobile Network Culture in Placemaking, at the College Arts Association 2012 conference. Playing upon the dynamic relations between physical place, digital space, and mobile access via smartphone, the mobile artworks in the exhibit will highlight the embodied performance of hybrid place and the social and collective politics of networked space. The works engage, subvert or recombine perceptions of location by drawing on elements of sense perception that are both immediately present and mediated by technology (sight, sound, narrative, affect, etc.). The interdependence of digital and physical experiences – the definable/indefinable, visible/invisible, connected/disconnected – supports a mode of playful co-production and networked participation. Diametrically opposed to the stasis of the spectacle or the artwork on a pedestal, this engaging open-ended mode of reception instead encourages fleeting interaction with strangers and emergent public spaces, as well as deeper meditations on place, nature and the city. Rather than rushing through L.A. on a freeway or watching it speed past on film, we are provoked to slow down, to sense and make sense of the routes and rhizomes that play through city spaces. This embodied engagement with mobile locative experiences will transform the familiar cityscape into a textured urban fabric that is mutable, surreal, disruptive and enchanting; one in which experiences may be shared via mobile technologies that echo across social media (Twitter, YouTube, Facebook, blogs).

The talk will present the art works/experiences, along with the audience response to the exhibition, as a complex and multi-sited/multi-media record of the exhibition leaving online traces of the city-in-play as an archive for re-play. Art that incorporates cell phones, GPS and other mobile technology reveals the complex social, political, technological and physiological effects of new mixed reality interactions. With the layering of space and place, the definition of the public site opens to new interpretations and allows for new practices. Specific strategies such as mediated representations, installations that integrate mobile and other communications technology, and networked audio/visual tags that create new community histories, allow participants to explore the aesthetic and strategic potentialities of mobile, networked and locative media. L.A Re.Play adopts elements of location-based mobile gaming, locative mobile social networks, and mobile activism to explore the possibilities and limits of the new borders between the physical and virtual, the real and the imaginary, the tactile and the tactical. Experimental interventions into urban public space and infrastructures of communication mix and blend presence/absence, public/private, movement/stillness, and local/global scales – including live networked connections to other cities – while raising crucial personal and political questions about surveillance, inclusion, and (dis)connection.



The Anonymity of Movement

Slammon, Robert

In this paper, I examine the notion of movement that I argue is inherent to the practice of tracking performed by ICTs in the field of medicine. The paper is part of a larger research project that investigates efforts in the fields of translational medicine or medical informatics to employ ICT systems that are able to anticipate risk events in real time from large, continuous inputs of heterogeneous data. In this broader project I focus on two examples: the use of genome-wide association studies to identify disease "susceptibilities" and drug targets in populations and individuals; and efforts to develop systems in clinical settings which anticipate risk from the analysis of multiple data flows (e.g., molecular and clinical data). I present an account of tracking that distinguishes it from surveillance; while the functioning of surveillance relies on the transcendental status (illusion) of its coding apparatuses (e.g., the autonomous eye), the machinery of tracking operates by continuously adjusting its own movements in relation to the movements it is tracking. I adopt Deleuze's (1990) term, "control," to distinguish the latter mode from surveillance.

In my presentation, I will be addressing these themes through the concept of anonymity or the practice of anonymization. Anonymization, achieved most often by automated encryption routines, has become the standard mechanism by which the information privacy of data subjects is protected. What is peculiar to anonymization is that it achieves two seemingly contradictory objectives: it upholds personal privacy and maximizes the flow of personal information. With encryption-based anonymization the standard mechanism for protecting the privacy of patients, research participants, and other data subjects, disclosure of personal information becomes the condition of privacy. In other words, with encryption, privacy no longer applies to private information but only disclosed information, for it is only disclosed information that is encrypted. The protection of personal information—its anonymization through encryption—correlates with its mobility and flow.

Thus, in my paper, I suggest that to understand the broader technical and cultural significance of anonymity, or anonymization, in the digital age, we must consider the correlation between movement and anonymity. I propose that personal information achieves an anonymity not only through encryption but through the very movement that encryption makes possible. Anonymity might be thought of in terms of the potentials such flows accrete when these flows are brought into relation with other flows, such as when the machinery of tracking relates its own movements to the data flows it tracks.

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Polyrhythmia: How reindeer bring temporality to the analysis of locative media

Southern, Jen

Recent discussion of locative media and the geoweb focus on the spatialization and localization of data. (Gordon & De Souza E Silva, 2011; Thielmann, 2010). This paper uses the GPS tracking of reindeer in Northern Sweden to ask how temporality and movement change the way we think about maps and movement in mobilities research and locative art practice. The paper builds on previous analysis of locative media through actor-network-theory (Galloway, 2010; Thielmann, 2010; Tuters, 2011) to discuss temporal actor networks. In this context Henri Lefebvre's rhythm analysis technique (Lefebvre, 2004) offers two important ways to think about GPS tracking and spatial data firstly by focusing on the multiple temporal rhythms that are co-present in environments and secondly in suggesting that it is necessary to combine being caught up in the rhythm of a place on the street with the distance of analysis.

The paper uses the case study of the GPS tracking of reindeer by Swedish Sami reindeer herders. I discuss how movement can be thought of as a mode of experience in which environments, people, animals and technologies are co-produced, and how this ontic-epistemic way of thinking about the world (Verran, 1998), or the 'dwelling perspective' (Ingold, 2000) might speak to the more formal and scientific language of western mapping in Geographical Information Systems (GIS). It introduces the theoretical argument that landscape is co-created through movement and that in tracking movement GPS can be used to speak back to mapping traditions that have



lost their temporal qualities and the process of their making. Using Lefebvre's rhythmanalysis I focus on the temporal and seasonal nature of reindeer herding, describing the landscape as co-produced by a series of different temporal rhythms that are left out of traditional maps. The partial and processual knowledge that is produced by the migratory tradition of reindeer herding is difficult to reconcile with the GIS maps of the forestry industry. In conflicts over land use the GPS track is being used as a boundary object (Griesemer & Leigh Star, 1989) to allow different traditions of understanding the land to speak to each other more effectively, one of planning and farming, the other of movement and migration. As GPS tracks become boundary objects they also connect qualitative and quantitative data, and translate between ways of knowing, to allow actions to speak back to plans (Suchman, 2007).

GPS is being used to draw together a temporal network of human and non-human actors to produce tracks that represent not just the movements of reindeer but of herders, foresters, government agencies, weather, GPS, helicopters, satellites, trees, lichen, trucks, trains and seasons. In setting GPS into this theoretical frame it is clear that tracks of movement are created by multiple and temporal actor networks. What is at stake in such mappings is that the local understanding of these multiple temporalities are often lost when those tracks are made into maps.

In concluding I discuss the new locative sound work 'Polyrhythmia' created by the author at the Pervasive Media Studio in Bristol, UK. This work sonifies live GPS data, for the walker who experiences a locative sound work on mobile phone, but also for a distant audience as the walkers GPS data controls an installation in which the rhythms of the city combine to create an orchestra of movement and rhythm, where changing temporalities combine in a constantly unfolding symphony of polyrhythms.

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Local mobility – young Danes, local relationships and mobile networking

Stald, Gitte

The aim of this paper is to offer an empirically supported theory about the role of the mobile phone as a preferred communication tool for young Danes, which in relation to private communication primarily supports exchange and social relations in local settings. The concept mobile telephone covers a wide variety of technological devices – from the basic portable telephone to the advanced handheld computer (smart phone) that facilitates numerous functions for information, communication, entertainment, citizen administration, cross-media exchange, wireless access to the Internet etc.. In principle the mobile telephone anno 2011 is the ultimate tool for all kinds of communication. The basic practical meaning of the mobile, however, is that it facilitates instant, accessible, ubiquitous, mobile communication of information and that it does so in relation to already established relationships. The cultural and social meaning of mobile phones is embedded in a broader cultural and social context at the level of society as well as at the level of the individual. Even when the mobile telephone is used by young Danes to bridge larger physical distance and to establish a shared feeling of social and psychological presence the interaction primarily takes place between individuals who already have a (relatively) close relationship, that is, between friends



and family members who are apart, e.g. due to shorter travels or stay abroad. The exception is that the mobile in some cases is used as an ice breaker, an inter medium which facilitates the hesitant upstarts of new relationships. The majority of interactions, however, primarily belong to the local context. For development of new long distance relationships media such as social networking sites, twitter, blogs or even e-mail are more common.

The paper presents findings and arguments that contribute to an explanation of the predominant use of the mobile in local settings. The discussion includes perspectives on communication strategies and on establishment of shared social and intimate spheres plus aspects of specific aspects of affordances, emergence and historical momentum of the mobile communication technology. The communicative use of the mobile phone is put into perspective by the very rapidly increased use of the internet on the mobile phone which in terms of social interactions adds more ways of updating social relations. So far, however, the data does not show, that this changes the importance of the mobile phone as the default tool for instant communication. Finally, the paper presents a take on the meaning of this in a much broader perspective of the meaning of digital communication media in relation to local rooting and global outlook. Empirically the paper is based on four repeated surveys (2004, 2006, 2009, 2011) of young Danes' uses of and attitudes towards mobile media, plus surveys on young Danes, mobile phones and social networks (2009), plus repeated surveys on IT students' interest in advanced uses of mobile phones (fall 2010, spring 2011, fall 2011). Theoretically the paper draws on theories about adaptation (Rogers, von Hippel) and domestication (Haddon and Silverstone); about cultural identity and diversity (Hall, Mizukoshi); about mobile media and cultural and social change (Ling, Katz, Ito, Baron, Fortunati), about digital media in relation to local and global exchange (Meyrowitz, Hjarvard, Jensen, Gordon & Gordon & de Souza e Silva), and about mobility (Elliott & Urry).

A very early version of the paper was presented at the European Communication Research Association's conference in 2010. Since then the data set is larger and more indicative of transformations regarding e.g. mobile internet uses and the theoretical arguments have been substantially developed.

The Texting Tourist: Texting to Learn in Higher Education

Sheehan, Lorn; Sundararajan, Binod and Gilbert, Sarah

Texting has emerged as the preferred means of communication of a wide range of people for a variety of activities. Jones & Schieffelin (2009) have discussed the use of texting in main stream media TV ads, while others like Thurlow (2005), Grinter & Eldridge (2003) have reported on the prevalence of texting among the youth and how it affects their communication and social interactions, the role of new technologies in the lives of young people and the blurred boundary between computer-mediated and face-to-face communication. Castells et al (2004) describe the "deep connection between wireless communication and the emergence of youth culture, the transformation of language by texting and the growing importance of wireless communication in socio-political mobilization". Sheneman, 2008; Carpenter, Froese & Barnes 2010 have identified the emergence of texting in classrooms in some form.

Developing an understanding of the potential for the use of texting, specifically in tourism education, is not only beneficial from the learning perspective but also generates an important technical skill set that is of increasing importance in communicating with the modern tourist. Brown and Chalmers (2003) describe how tourists work together in groups, collaborate around maps and guidebooks, and both 'pre' and 'post-visit' places and draw implications for three types of tourist technology: systems that explicitly support how tourists co-ordinate, electronic guidebooks and maps, and electronic tour guide applications. They add that good tourist technologies are not only those that make tourists more efficient, but that also make tourism more enjoyable and technologies that allow tourists to spend time with friends and family are likely to be preferred than those that do not integrate this sociality. Buhalis and Law (2008), conclude that with the prevalence of technology, consumers are becoming more empowered, know what they want from tourism products, are more sophisticated and experienced, and hence more difficult to please. Students graduating from tourism and hospitality programs are well-served by being adept with the use of this technology.

We describe a funded work-in-progress investigating the effectiveness of texting as a learning tool for higher-level courses. The design assesses three types of communication within groups of participants, 1] face-to-face (FTF), 2] only Instant Messenger (IM) and 3] only texting. Participants (pre-tested for baseline knowledge) attend lectures for five days on the subject matter, followed by discussion (audio/video recorded and logged) with



their respective group members about the possible responses to discussion questions related to the lecture material. After five days, participants are debriefed via a focus group, a post-test and a survey to assess their understanding of the subject matter, the type of communication used and other learning outcomes. The findings from this research can be used to explore the use of the latest in texting technologies and enable an additional dimension of learning in school and university classrooms in tourism, management, and social science courses where discourse is part of the learning process. We will report some early results at the conference.

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License to Locate

Sutko, Daniel

Mobile phones, GPS, and RFID all mark, inscribe, and identify. Your mobile phone marks you by your phone number, your GPS location, and soon by your IP address, once 4G technologies connect GPS location and IP addresses. RFID chips track objects in space, monitoring mobility and denying or allowing access. My paper casts new location-aware technologies in terms of the longer history of their practices, to bring nuance to how location-awareness operates as a technology for producing and governing mobility. For example, these practices include: requiring radio operators to identify broadcasts with call signs; copyrighting books; region-coding DVDs; and registering ships on the ocean. Practices of registration, coding, copyrighting, identification, and location-awareness can be understood in terms of “licensing” as a mode and rationality of governance.

Licensing confers rights to govern or occupy space—questions of authority and jurisdiction. These concerns involve rights to attack and defend, to demand authentication (i.e., identification), to govern media or space against modification, transportation, replication, and intrusion As such, licensing produces and differentiates multiple spaces, mobilities, subjects and objects.

The practice of licensing is humorous, consumerist, and playful in how Foursquare bestows titles and benefits to frequent visitors. Licensing becomes more serious when using GPS to locate disaster survivors or find someone who dials 911. Licensing, although pedestrian in how RFID tags keep books in a library or people out of certain areas, secures space—permitting and denying mobility. In general, licensing practices show how questions of communication, transmission, and transportation are always questions of control over territory (Carey, 2009; Innis, 2007; Mattelart, 1996) and, therefore, imply power relations (Elden & Crampton, 2007; Foucault, 2007; Innis, 2007, 2008).



My historical perspective addresses questions of location-awareness, governance, mobility and surveillance without putting their necessarily nuanced answers in terms of contemporary dichotomies of public/private, freedom/control, connection/disconnection. I examine multiple historical and contemporary examples of licensing in some detail: the flying of flags, radio station identification, DVD regionalization, copyright practices, GPS, IP address, and computer securitization. A ship's flag confers the nation's sovereignty on the ship and makes the nation responsible for the sailors' actions. A radio call sign identifies an operator, distinguishing between amateurs and professionals. A computer login authenticates the user, and a Foursquare check-in tallies frequencies of visitation. In all these cases, licensing produces territories and rights to act within and on those territories and on the subjects/objects within those territories. Likewise, copyright, a practice apparently unrelated to the location-aware technology on mobile phones, is one of the earliest technologies for locating information in space and for connecting information to space. Early copyright solved one problem of managing the mobility of information through space, and of governing the mobilities—the communications—produced by subjects. A book, marked by the location of its printer, connected the information in the book to the printer's location. By locating, this printer's mark limited the publication of information seditious to the state or heretical to the church. The printer's mark also legitimized edicts from the King, authorizing them as words from the king's rather than the horse's mouth. At once, copyright prevented and permitted, authorized and denied. A book was once considered "pirated" simply because it crossed the wrong border. Similarly, DVDs include region codes to allow media companies the more efficient governance of media in space and guarantee consumers that they receive authorized copies. Although the DVD is a dying medium, licensing is the "new" method for governing digital content.

Through these examples, I show how licensing is simultaneously the identification of transmission and identification through transmission. Location-awareness is one of many cultural technologies (Berland, 2009; Slack & Wise, 2005) that can be understood in terms of licensing. When viewed through a Foucauldian-historical perspective, location-awareness is both not as new as it seems, and also different from everything that came before.

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Glass Borders: Manufacturing Im/mobilities at the US Embassy in Mexico City

Tanelorn, Jackal

"Glass Border" is a concept developed by Jackal Tanelorn as a complement to "Glass Ceiling," a term popularized in the '80s as a way to describe the barrier that prevents women and minorities from getting ahead in business. Likewise, the Glass Border represents those barriers, both real and imaginary, that impede the middle class of developing countries from getting ahead in a globally integrated economy. This Glass Border is particularly crucial when examining travel from Mexico to and through the United States.

For Mexicans, one real barrier is in obtaining a U.S. visa, an essential travel document not only in terms of accessing the United States but to travel to most other parts of the world. The U.S. Embassy is in the business of manufacturing global mobility and immobility; and Vice Consuls, who process between 70 and 90 visa applications each day and reject one applicant every half hour, sit on the front lines. The bulletproof glass barrier that separates Vice Consuls from visa applicants serves as a concrete example of a Glass Border while the applicants themselves are subjected to being deemed worthy or unworthy by-products of mobility. However, it is not only this real barrier that impedes Mexican middle class mobility, but a more insidious hurdle that pits stereotypes against dignity. Stereotypes have crossed geopolitical boundaries long before access social networks appeared in the internet.

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These act as psychological barriers that combine with real barriers to make the idea of global travel overwhelming. The Mexican people's collective experience with the American stereotype "Mexican=immigrant=illegal" is one such barrier. This collective imagination is punctuated by anecdotes conveying many Mexicans' sense of frustration and humiliation at the U.S. Embassy.

This presentation examines how these barriers to the U.S. Visa are viewed through two sets of eyes – those of the Mexican middle class and those of the Visa Chief of Mexico City – and where mobility meets friction, not only in terms of immovability, but in the tension of mobile flows of access, identity and stereotypes.

Counter-mapping the Neighborhood: Youth Learning with Geospatial Technologies through Urban Spaces

Taylor, Katherine and Hall, R.

In 2006, the National Research Council (NRC) issued a challenge to the education system; teach students to think spatially. The NRC's charge was intended as a stimulant to the education system to keep students' skills in pace with an increasing number of professions that use aspects of spatial thinking. Urban planners, for example, have always made spatial arguments with discipline-specific evidence. But now, with the rise of Public Participation GIS, global positioning systems (GPS), and other technologies, urban planners are increasingly interested in involving the public in connecting specific experiential information to particular locations in space and time (Kingston, 2007). Therefore, even though the need for spatial thinking in many professional settings has always been a real one, being able to think spatially with ubiquitous geolocation systems is a more recent and pressing demand in the realm of civic participation.

This paper's purpose is to explore the interplay between formal and informal representational schemes (Bowker & Star, 1999), linking recent ethnographic research from the professional setting of participatory urban planning (PUP) to experimental teaching methods with adolescents involved in a bicycle-building workshop. The workshop's aim is to enhance adolescent mobility around the city, increasing accessibility to, and awareness of, youth engagement opportunities. Our own instruction was an addition to the existing bike-building program, and used students' newly-enhanced mobility as the content from which to teach critical analysis of "formal" representations depicting their neighborhood. We began from a critical geographies stance that, "Different social groups have distinct relationships to this anyway differentiated mobility: some people are more in charge of it than others; some initiate flows and movement, others don't; some are more on the receiving end of it than others; some are effectively imprisoned by it" (Massey, 1994; p. 149). It is from this idea that we took-up the notion of children's agency in understanding, shaping, and representing their own mobility in ways that may or may not be contrary to formal versions of their lived spaces.

Conducting design experiments with youth participating in an afterschool program allowed us to "engineer" particular learning circumstances to answer questions (Cobb, Confrey, diSessa, Lehrer, & Schauble, 2003) about teaching spatial thinking "on the move." As part of our study design, we collected video records, field notes, interviews, and a number of student-created artifacts including free recall maps, Google maps, time-diary entries, photographs, and GPS track data.

Our findings so far suggest that instruction around semi-structured mobility, in conjunction with using available geolocation technology in a familiar neighborhood, can offer youth material for building imaginative and critical representations of their present and future selves and communities. In contrast to the public participation we observed in PUP, where adults were more or less passive recipients of spatially displayed data regarding their own neighborhoods, the youth participating in our design experiment re-appropriated and recreated existing representations to fit current and imagined uses of the urban environment based on data they generated.

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From the Cloud to the Sidewalk: Pedestrianism, Protocol, & the Politics of Walkscore.com

Taylor, Nathan

The contemporary imperative to 'green' oneself is less a suggestion and more a mantra circulating throughout popular culture. After green became a verb, one's entire life became its object. Individuals green their mobility through a variety of practices and technologies – all vying for the coveted designations 'sustainable' or 'local.' To the extent that the future of sustainable mobility seems to be imagined as an increasingly walkable one, a return to pedestrianism parallels the expansion of 'green' into multiple facets of everyday life.

This paper intervenes in and contributes to discourses concerned with sustainable mobilities. It problematizes the way in which walkability is constituted, particularly through its relationship to technologies like Walkscore.com. This website designates a place as walkable or non-walkable according to an algorithmically produced schema based solely around the nearness of everyday sites of consumption. This algorithm allies itself with a preconceived notion of walkability based around convenience, consumption, and proximity. As such, it articulates an implicitly controlled pedestrian whose mobility mirrors such values. This paper will analyze the Walkscore.com algorithm in an attempt to bring Galloway & Thacker's (2007) "protocolological control" from the cloud to the ground, demonstrating the ways in which protocol is effectually materialized in pedestrian mobility.

This paper asks what a pedestrian produces and consumes as it walks about a given locality, and how such production and consumption are harnessed in part by algorithmic technologies like Walkscore.com. My interest in the productive nature of the pedestrian goes beyond everyday material consumption (e.g., coffee, dry cleaning, groceries—activities that produce revenue for local businesses), and is more concerned with what the pedestrian itself produces as it moves from place to place. For instance, so-called "walkable" real estate (as defined by Walkscore.com) is valued at a considerably higher rate compared to "nonwalkable" real estate (CEOs for Cities, 2009). I argue that disciplined pedestrians play a part in producing this value through comporting themselves in a responsible, safe fashion while walking about a given neighborhood. Technologies like Walkscore.com not only constitute what it means for a place to be 'walkable,' they also interpellate a mode of pedestrianism based on the simultaneously consumptive and productive capacities of the contemporary pedestrian.

Ultimately, this paper outlines some of the implications of such a pedestrian for the future of sustainable mobilities. Moreover, it opens up a space of critique in which alternative pedestrian politics can be thought and potentially implemented.

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Mobility and the Soundscape in Dialogue

Thulin, Samuel

In this presentation I will examine the potential for a productive conversation between the fields of mobility studies and soundscape studies, considering the notion of an "expanded soundscape." The expanded soundscape operates as a way of investigating the nexus between sound and mobility, merging the idea of the soundscape with forms of mobility and ideas of space typically neglected in the field. I begin by outlining convergences in the ways mobility and sound have been considered by theorists. Looking at philosophical perspectives on place and mobility, Tim Cresswell has identified a "metaphysics of fixity and flow" in which mobility comes to occupy a position as a force that is fluid, dynamic, and a challenge to established boundaries and ways of thought. Sound has been characterized similarly, with a focus on its elusive abilities for crossing boundaries (Arkette, Toop), and its offer of epistemological possibilities beyond those of Western visuocentrism (Ihde, Dyson). Bearing these connections in mind, I argue for the importance of considering in tandem ideas from both fields.

Soundscape studies has a keen awareness and interest in the dynamics of place and mobility. The



practices of soundscape artists and scholars, such as Hildegard Westerkamp and Andra McCartney, exhibit a commitment to understanding how mobility is vital to investigating place and vice versa, exploring through practice ideas such as Doreen Massey's assertion that places are never static and always interconnected and changing. Yet much of the work of soundscape studies has been, and continues to be, geared toward certain modes and positions of mobility, favoring the non-technologically encumbered walker above all else. In my paper I examine the reasons for the preferential treatment of certain forms of mobility in soundscape studies and suggest possibilities for expanding the way the field considers mobility. Two expansions are of concern to me: 1) looking more closely at forms of transportation other than walking (i.e. subway systems, airplanes, automobiles etc.) and 2) looking more closely at ways of "being-on-the-go" involving mobile media. In this presentation, I will concentrate primarily on the second of these expansions, while also considering how the expansions are linked, exploring practices involving mobile sound devices, such as the iPod and iPhone. The perspective proposed here differs from the work of mobile music researchers such as Michael Bull, as it builds on the notion of the soundscape with an ear toward mobile media rather than taking the mobile device itself as starting point.

Of course, while soundscape studies can benefit from this expanded view of mobility, I argue that an engagement with soundscape studies offers productive possibilities for mobility studies as well. The example of Muzak makes clear the connection between sound and bodily mobility (Labelle, DeNora), as does Rowland Atkinson's investigation of the influence of city sounds in determining the paths that people take and the places they live and visit. Closer attention to the relationship between sound and the body, a particular focus of soundscape studies, might provide new opportunities for considering the idea of mobility. I will pay particular attention to how such an approach may be effective for looking at mobility in the expanded soundscape, which may also be thought of as a hybrid soundscape incorporating the idea of sound on multiple levels and integral to "hybrid space" (de Souza e Silva). Ultimately, by drawing out a dialogue between soundscape studies and mobility studies, I argue that new ways of thinking about both mobility and sound may emerge.

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The game is plenty fun just sitting on a couch

Tobin, Samuel

This paper uses findings drawn from an extended ethnography of Nintendo DS handheld game players in order to explore the practice and discourse of portable play in domestic space. This paper argues that domestic space, long treated as a setting for home console system usage is opened up and complicated when approached from the perspective of mobile game play. In turn the very idea of the "mobile" in such play is brought into question. This paper is animated by the voices of the players of the Nintendo DS as well as by this researchers surprise at how much and how important playing and moving about at home, as much as on the go or in public was to them. In their discourse and practices we come to see how mobile players move and use the home and how fraught and changeable that domestic space can be. These issues, while crucial for the study of handheld games, also resonate with more general questions of mobilities, domesticity and the quotidian as well as methodological questions for media ethnography.

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Throughout the paper domestic spaces are contrasted with and connected to other play settings, such as arcades and other “public” spaces. To address these points issues such as distinctions between private and public, what it means to play by oneself, how these spaces are gendered and how spaces are appropriated, decorated and sanctioned for play are addressed, unpacked and put in context. This paper draws on a range of work from the sociology and anthropology of domestic space, mobile and/or spatial oriented games studies as well as media studies of public screen spaces.

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Ride thru the 'Hood': L.A. Gang Tours and the "Production of Racial Immobility"

Towns, Armond

My presentation will address the buying and selling of what is perceived as “racial authenticity” in “extra-capitalistic” economies, which blur the distinctions between “in” and “out” of capitalism. This process of producing and consuming racial authenticity occurs on what I call the “black market.” Here, my concern is with what some call “racial capitalism,” where race has value that cannot be reduced to Marx’s labor theory of value. Such is the case with a relatively new tour offered in Los Angeles referred to as the L.A. Gang Tour. On these bus tours, tourists, led by former and current gang members, ride through gang neighborhoods for \$65 a day, down from \$100 a day. There has been a fair amount of controversy surrounding this tour. One of the biggest so far has been around the suggestion that at the end of the tour, tourists get shot by neighborhood kids with water guns and receive t-shirts that say, “I got shot in South Central.” Another has been around a rumor that the tourists will give cash prizes for a dance competition between members of the South Central homeless population. According to a recent NPR article, most of these controversies have been taken out for fear of “too much” exploitation. In addition, tour guides have decided against allowing photographs to be taken during the tour.

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Interestingly, these tours are scheduled during "neighborhood ceasefires." In short, there is a production of an authentic space and authentic mobility of subjects through that space that, in truth, is suspended, produced as immobile, for the safety of tourists who cannot move through these spaces on any other day. In short, the ghetto is not actually "immobile," but "produced as immobile"—the "ghetto mobility" is a different form of mobility from the tourists, although the ghetto is assumed to never change. The tourists, shown bullet holes in walls and cars and driven past jails that house thousands of gang members, are allowed a form of mobility through time-space that is not shared by the residents of these neighborhoods who are, it is assumed, "frozen" in the 'hood. In addition, this privileged mobility occurs during a produced immobility—a three-hour-long ceasefire. The (im)mobility of the gangs must be checked to allow the "free" mobility of the tourists, what Sheller calls a sovereign mobility. There is a "produced immobility" of the 'hood here, which, it is marketed as, allows tourists to see what it is "really" (authentically) like in the ghetto. This production of authenticity, according to some, should be feared for its exploitative nature. Yet, the tours are not viewed as wholly repressive. Some journalists have argued there are "positive" happenings on the tours as well: gang members are given "legal jobs" and, for many tourists, there are potentially humanizing effects of meeting gang members and discovering they are no different from other people. The tours, then, speak to the contextual and contested ways in which different subjects view what is positive (overwhelmingly described as having "legal" jobs) and what is negative (the "zoological" nature of touring the black and brown ghetto). Here, there are race, class, gender, and sexuality implications that will be given more attention, in addition to conflicting notions of what constitutes the real.

The orchestration of chance: locative media, digital metis and the theory of occasions

Van den Akker, Robin

In the proposed paper I will argue that geosocial networks allow users to orchestrate chance. Empirically, the paper will be structured around a case study of Foursquare, based upon a series of interviews with so-called heavy users of this geosocial network. The set of respondents consists of ten male and ten female Foursquare-users, living in Amsterdam (NL), Rotterdam (NL) or Antwerp (BE). Throughout the paper, I will use citations of these respondents to support, underline or clarify my argument.

Orchestration is commonly described by handbooks as the creation of assemblages of hardware, software and human operators to deliver a particular service. Within the context of 'hybrid space' (De Souza e Silva, 2006) one of these orchestrated services is chance. The paper will give examples of two different, yet related types of orchestration: algorithmic orchestration and social orchestration. The paper will argue that these types of orchestration must be conceived of, after Michel de Certeau, as a form of digital metis.

Theoretically, the rather oxymoronic notion of "orchestrated chance" will therefore be conceptualised by means of De Certeau's 'theory of occasions', as set out in 'The Practice of Everyday Life' (1984). According to De Certeau, taking advantage of occasions presented by circumstances requires a 'tactical mobility', which 'must accept the chance offerings of the moment, and seize on the wing the possibilities that offer themselves' (idem, 37).

Occasions, importantly, consist of 'heterogeneous elements' to be combined in an 'intellectual synthesis' that 'takes the form... of the decision itself; the act and the manner in which the opportunity is seized' (idem, xix). Constitutive decisions, in other words, include some elements of the given circumstances (i.e. the urban space one finds oneself in), and exclude others, by processing, in a fraction of time, all relevant data concerning the occasion, the opportunity and the possible outcomes.

These constitutive decisions are mediated, and this is a valuable insight, by metis, a form of knowledge based on experience, know-how and practical wisdom, - or, put differently, a 'memory' (idem, 82). In a rather elegant formulation, he describes metis as the smallest of volumes of an encyclopaedia, which nevertheless holds both a 'treasure of past experiences' and an 'inventory' of future opportunities (idem, 83).

In and through hybrid space, I will argue, the occasions presented by chance are brought to one's attention, and are acted upon, after the mediation of digital metis. The choices that set certain occasions apart from others, and the decisions to include some elements and to chase away anything that cannot be included, are, in other words, outsourced - to varying degrees - to our technological extensions.

By theorising our usage of geosocial networks along the lines of De Certeau's 'theory of occasions' (and therefore by implication along the lines of Henri Lefebvre's 'theory of moments') the paper attempts to intervene in



the situationist discourses that is often informing the debate about locative media. Although the theory of situations might be of interest within the context of the artistic explorations of hybrid space, the theory of moments has more relevance for our understanding of locative media practices. After all, users of locative media do not impose "constructed situations" upon the everyday, but react to "moments" and "occasions" that emerge from within everyday life.

Virtual Mobility in Rural Denmark

Vestergaard, Maria

Lately a centralisation of hospitals, government and education has taken place in Denmark which has intensified the movement from rural areas to the cities. This has left the fringe of Denmark with a huge problem of depopulation and lack of economic growth. This leads to empty houses and closing of shops and schools which leave the areas with among others longer distances and lack of development. All of this makes it even harder to attract new residents and companies, and prevent others from moving away. This leaves the areas with many mobility challenges and it is part of a vicious circle which can be difficult to interrupt.

However with the entering into the Information Age and with the development of the Network Society the vicious circle might be interrupted. As Castell (2010) puts it: "The development of electronic communication and information systems allows for an increasing disassociation between spatial proximity and the performance of everyday life's functions: work, shopping, entertainment, healthcare, education, public service, governance, and the like." (Castells, 2010, p. 424). This makes it possible to live in rural areas while e.g. having a job further away and thus reduce some of the problems with longer distances in these areas. This could give the rural areas new development possibilities. Gordon and de Souza e Silva (2011) also highlights how it is possible to be global locally: "The provinciality of the small town, physically isolated from the rest of the world, is potentially cosmopolitan because of the integration of information into its streets." (Gordon & de Souza e Silva, 2011, p. 3).

This article investigates if this Information Age has made the rural parts of Denmark more connected to the rest of the country and the rest of the world, how the residents feel they are connected as well as the possibilities to be more connected. To answer these questions Denmark's first National park, National park Thy, has been chosen as a case. National Park Thy is located in Thisted Municipality placed in the periphery of the national territory. Water is a characteristic element in the area which among other things makes it very attractive for tourists but the placement with the natural borders of oceans and fjords also create physical mobility challenges for the area. Furthermore the above-given problems and challenges for rural areas is also applicable for National Park Thy.

With point of departure in Kaufmann's (2002) "Motility" concept this article investigate the virtual motility of the people living in National park Thy. It looks into the Access (Kaufmann, 2002) to virtual mobility networks by investigating the "virtual mobility assemblage" (Vestergaard et al. 2011) i.e. access to broadband and mobile networks and the service these opportunities provide and the costs. It investigates the competences (Kaufmann, 2002) to use the access that the residents in National park Thy possess e.g. competence to use a computer. Furthermore the Appropriation (Kaufmann, 2002) of the access and competences is investigated including the need to have this motility and the habits. Finally the performed virtual mobility is investigated.

The motility is investigated through register data of e.g. broadband access, mobile network access and the computer skills of the Danish population. Beside this a questionnaire has been circulated to residents in National park Thy. The questions in this questionnaire have been inspired by the presented theory from Kaufmann (2002) as well as general mobilities theory (Urry, 2007) (Sheller & Urry, 2006) (Lassen & Jensen, 2006). Finally an expert interview have been conducted with a laboratory engineer from Center for Network Planning at Aalborg University who has contributed with technical information of broadband and mobile network as well as input to the virtual mobility assemblage.

Even though this paper mainly focuses on virtual mobility the paper arguments that this cannot be investigated isolated and throughout the article the connection with other mobility modes (Urry, 2007) will be present. Also in the end of the article the connection between the different kinds of mobilities will be discussed as well as the possibilities to develop the virtual mobility potentials.

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ParTour: Leveraging the Dual Mobilities of Cellphones and Bicycles for Urban Change

Bar, François; Gonzalez, C.; Khera, Otto; Stokes, Benjamin and Villanueva, George

Can basic cell phones and bicycles help re-imagine Los Angeles? In this paper, we consider a participatory storytelling and mapping platform called ParTour, a pilot project advocating urban social change. Over 70 residents were dispatched on bicycle quests to gather pieces of a collective story. We analyze this production as part of a place-based storytelling network. Simultaneously, we consider how the ParTour design hacks into urban culture, resonating with the ascendant bicycle movement in Los Angeles and its Do-It-Yourself (DIY) practices for engaging public space.

This paper uses the ParTour case study to propose a theoretical alignment of two mobilities: DIY bicycle culture and the locative media of phone-based storytelling. Using the methods of design-research, we argue that these dual mobilities can be powerfully aligned in the context of public events, allowing local participants to appropriate their urban surroundings. Our analysis has implications for theoretical alignment between Communication Infrastructure Theory (Ball-Rokeach, et. al 2001), space, the literature on technological appropriation, and cultural studies of bicycles and DIY street culture.

The appropriation of mobile technology and urban space by local residents was a primary design goal for ParTour. By participating, urban users transformed their everyday phones into multi-media tools for geo-locative storytelling, using SMS and MMS rather than smartphone applications. This embodies the re-invention of mobile technology through appropriation described by Bar et al. (2007). The ParTour infrastructure expands upon an open-source mobile platform built with low-wage immigrant workers in Los Angeles to tell stories about their lives and their communities (VozMob Project, 2011).

Inspired by theories of real-world games (Gordon & de Souza e Silva, 2011; Klopfer, 2008), ParTour focuses on activities rather than tools. It creates feedback loops for what we are calling 'situated engagement' in place-based social and civic practices. For example, participants selected quests to structure their activity into goal-based missions, like taking pictures and geo-coding community assets that are valuable enough to be shared with others.

ParTour is deliberately situated within public bicycle rides, especially CicLAvia, the massive Los Angeles event which bans cars from 10+ miles of streets, opening space for bicycles and recreation to advocate for alternative transportation. Mobile social interaction within physical space promotes a re-discovery of familiar surroundings, resulting in appropriation of urban space (Kidder, 2011).

Despite enthusiasm over hyper-local journalism, place-based media is rarely analyzed ecologically. We draw upon Communication Infrastructure Theory (CIT) to situate ParTour within neighborhood-based storytelling networks, which are associated with a range of indicators for healthy neighborhoods. CIT measures the connections between three elements: local residents, community-based organizations, and local media produced for particular geographies or ethnicities. Our analysis particularly considers the role of T.R.U.S.T. South LA, a neighborhood organization advocating for extending the CicLAvia ride further into the distressed neighborhoods of South Los Angeles. We analyze how ParTour shifts the power and storytelling roles for this organization within the storytelling network..

Simultaneously, ParTour's social practices of participatory storytelling within public events resonates with DIY bicycle culture. As a cultural phenomenon, bike culture is an emerging force in social movements for alternative urban transportation in Los Angeles. We find that the success of ParTour depends on balancing several forces in DIY bike culture, including the fiery desire to retake the streets (Blickstein, 2008), the mastering of available tools



(Uckelmann, 2011), and the more conciliatory bike rides, like CicLAvia, sponsored by the local municipality. Here, mobile media amplifies cyclists' mobility to produce dynamic practices of 'lived space' (Lefebvre, 1992) that reconfigure officially sanctioned uses of urban space.

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Locative mobile media, place and performativity Theoretical framework

Waade, Anne; Ess, Charles and Bechmann, Anja

Our paper focuses on theoretical aspects of locative, mobile media as examined from the perspectives of the mobile internet, communication practices, media geography and performativity. The main argument is that locative, mobile media afford new kinds of communication that are markedly different from other kinds in that the communication combines social, performative and spatial aspects in new ways, and hence, to fully analyze this, we suggest an interdisciplinary theoretical approach combining ideas from media, tourism, performance and geography studies respectively. We will use mobile tourism practices as cases both to illustrate our theoretical approach and to provide concrete examples of how mobile, locative media are used to communicate, produce and perform places. In addition, our paper aims to reflect on mobile, locative communication as field of research and highlight distinctive methodological challenges. The paper encompasses three main parts:

1. Identifying the field and analytical examples

The paper identifies locative, mobile media as a field through the discussion and exemplification of mobile apps illustrating the characterization of space and location as both a social, performative and spatial matter. We define our understanding of locative, mobile communication and show how this understanding is exemplified in different kinds of mobile apps within the field such as social location based services (Foursquare and Facebook Place) and augmented reality apps (Nearest Wiki and New York Nearest Places).

2. Theoretical and interdisciplinary approaches

The identification is followed by our suggestion for an interdisciplinary theoretical framework to analytically approach the field containing aspects of mobile internet, cross-media practices and methodologies, and performance and geography studies.

a) Always on; mobile communication in an internet research perspective: From the standpoint of Internet Studies, mobile communication, especially as enhanced through locative services, raises new challenges first of all in terms of research methodologies and research ethics (Baron 2008, Ess 2009). The section explores representative challenges and seeks to offer suggestions for their resolution and new steps forward.

b) New media practices: mobile, locative media in a cross-media perspective. Locative, mobile apps are often used in communicative practice networks with other media platforms or with media 'on location'. Through a cross-media perspective (Jenkins 2006; Bechmann 2009) these practices are analyzed and discussed from a content-flow, from a network identity and from a methodological perspective.

c) Locative media in the aspect of media geography, tourism and performativity: Locative mobile media are theoretically presented and analyzed as part of a mediated tourism practice (e.g. Urry & Larsen 2011, Bærenholdt



et. al 2004, Sheller & Urry 2004, 2006, Edensor 2001, Crouch et. al 2005), media geography (Falkheimer & Jansson 2006) and as performative aspects of place-based communication (Carlson 1996, Timm Knudsen & Waade: 2010). The section analyzes and exemplifies how the production of place and spatial emotions are characterized as embodied performative and communicative actions within locative and mobile media.

3. Mobile media and methodological and research field questions

The paper finally discusses and summarizes methodological questions including mobile methods (cf. Büscher, Urry & Witchger 2011, Pink 2009), and reflects on how mobile media communication challenge media studies and media research.

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Home is Where you Park it

Wehman, Grover

There is still a presumption that the function of a highway or road is to prioritize the commute of people into city in the morning and out to a house in the suburbs at night. This obscures the experience of the automobile, the home, and road usage of the workers who facilitate the mobility of the generally middle-and upper class, generally white, ideal homeowner and driver. Embedded within the naturalized distinction between the home and the automobile is an ideology that highways, housing planning, and parking ordinances are being used appropriately when they serve those with economic and social privilege. In this paper I look at discourses of living in the automobile. As these accounts of car dwelling evidence, when the infrastructure is designed to facilitate movement for the economically powerful, it becomes a required machine for most, but a vehicle for movement, speed, and comfort only for some.

To theorize automobility in which the auto is being used as it was designed ignores the deeply ideological and divisive social-economic priorities of the auto-infrastructure in the United States. Similarly, to reify the home as primarily a fixed site, place, location, or structure that cars travel to and from is to maintain a dichotomy in which people who live in adequate traditional shelter are 'inside' citizenry and social norms, and people who are homeless or who make home in structures considered inadequate shelter are 'outside' or exempt from belonging or "the community". In the current economic and infrastructure conditions of the United States, living in the automobile is not an interesting phenomenon or side note—it is inherently part of how the auto-mobile-system functions.



Horizons of mobility: Globalization and sense of place in Concepción, Chile

Wiley, Steve; Moreno-Becerra, Tabita; Laboy, Johanne and Damasceno, Cristiane

Recent work within the mobilities paradigm has drawn attention to the sedentarist bias of traditional social theory (Cresswell, 2006), calling for a reconceptualization of social space from the standpoint of differential mobilities (Hannam, Sheller, & Urry, 2006; Sheller & Urry, 2006). At the same time, research on globalization has highlighted the myriad ways in which places are composed of translocal networks, flows, and relations (Castells, 2009; Giddens, 1991; Massey, 1993; Morley, 2000; Morley & Robins, 1995; Sassen, 2000, 2007). If people, goods, discourses, and technologies are mobile, and if cities and regions are nodes within transnational networks, how do we define social space? How do we discover the social space of an individual or community without reproducing taken-for-granted assumptions that conflate place with culture and define people in terms of their geographical location? How do we determine if new patterns of mobility, mobile communication, and global interconnection are reshaping people's sense of place? Are place identities shifting significantly, or do traditional understandings of place persist in the midst of mobilities and new network connections? To what extent do differential experiences of mobility and connectivity alter our sense of place (the meanings and emotions we associate with specific locales) and our sense of space (the broader cognitive and affective maps of places and territories within which we understand our own location)?

These questions cannot be answered in theory; they must be addressed through empirical research. This paper reports the initial results of a five-year longitudinal study of globalization and sense of place in Concepción, Chile, one of the most globally connected cities in Latin America. The second author (Wiley) conducted a year of ethnographic fieldwork in Concepción in 2008, including participant observation, respondent interviews with 130 randomly selected individuals throughout the urban area, and autoethnographic activity diaries completed by 75 first-year university students (for the authors' conceptual model of social space and previous reports on this research, see Wiley, Sutko, & Moreno, 2010; and Wiley, Moreno, & Sutko, 2011). Here, we report on the analysis of the autoethnographic data, which reveal the patterns of mobility, social interaction, and media use of the participants, as well as their perceptions of place, space, and globalization.

To complete the autoethnographies, participants recorded their activities during three typical days (two weekdays and one weekend day), including detailed 24-hour records of activities, transportation, media use, and interpersonal communication (both mediated and face-to-face interactions). Based on the activity diaries, the participants also constructed social-network diagrams and drew maps depicting their perceptions of the salient features of their geographic surroundings. Finally, participants completed a three-part questionnaire focused on their sense of place, their sense of space, and their perception of globalization. The autoethnographies will be repeated in 2012 with the same group of participants in order to discover how their sense of space and perceptions of globalization—their horizons of mobility—have changed during the past five years.

Analysis of the autoethnographic data is still underway, but initial results permit a number of tentative observations. First, the participants in this study, all of whom were first-year university students in a specific social science major at the time the study was carried out, by and large reported a strong sense of place anchored in their home town, their neighborhood, and the home of their parents. Their ties to place are defined primarily by their social ties to the people associated with those places—family and neighbors. Second, the participants' mobility is overwhelmingly motivated by family ties and student responsibilities (that is, attending classes) and generally occurs at the scale of the region—between their home town and the city of Concepción, where they attend classes—and at the scale of urban area—that is, between salient locations within the city of Concepción (the campus, their apartment building, downtown bars and dance clubs, etc.). Few of the participants have travelled to other parts of Chile, and very few have travelled internationally at all. Third, the participants' media use is predominantly at the national scale—comprised of news and entertainment programming produced by Chilean national television networks—with some participants reporting consumption of international content via television (e.g., HBO, MTV, The Simpsons, international soccer matches) and personal audio (e.g., mp3s of music by The Clash, Amy Winehouse, Daddy Yankee). Fourth, participants' interpersonal communication is primarily face-to-face, with computer-based instant messaging (e.g., AIM), voice communication over mobile phones, and web-based social networking sites (Facebook, Fotolog) figuring significant alternative means of interaction. And fifth, when asked about their perceptions of globalization in their own surroundings, most participants spoke about technological and infrastructural changes in communication and transportation—for example, the ubiquity of computers and cell phones and the substantial improvement in roads and public transportation.



Mobile phones and social ties in an age of neoliberalism: the production of location lies and physical immobility in Zambia

Willems, Wendy

The emergence of the mobile phone in Zambia was facilitated by the opening up of the telecommunications sector in the early 1990s which resulted in the establishment of three mobile phone networks. The liberalisation of the sector should be understood within the rising hegemony of neoliberalism in the 1990s in Zambia brought about by the introduction of a World Bank and IMF-supported structural adjustment package. While previously mining companies and the public sector were the main providers of formal employment in Zambia, trade liberalisation and the privatisation of state enterprises resulted in significant job losses in the formal sector. Although the mining sector had already brought about a large degree of rural-urban migration (Ferguson 1999), the subsequent informalisation of employment reinforced older patterns of mobility as Zambians were now increasingly forced to earn their livelihoods through alternative, informal (and often mobile) income generating strategies such as street vending, cross-border trading and other forms of small businesses (Hansen 2000). The high degree of mobility arguably resulted in a weakening of family structures, with many formal and informal workers living far away from their relatives. In a context in which specific patterns of employment are linked to intense movements of people across physical space, this paper examines the relation between mobile phones, location and social ties. Out of a population of 11.5 million, the number of mobile phone users in Zambia has grown dramatically from 150,000 in 2003 to 4.9 million in 2010 (ITU 2004; ITU 2011). As in other parts of the global South, the mobile phone has quite dramatically facilitated communication between Zambians, many of whom now have access to an instant means of communication for the first time (see also Ling and Horst 2011). Based on fieldwork in an informal market and shopping mall in Zambia's capital Lusaka and drawing on mobility literature (cf. Sheller and Urry 2006; Sutko and de Souza e Silva 2011), the central questions that this paper addresses are: How does the mobile phone relate to physical location and how can we understand its impact on the renewal and maintenance of social ties in an age of neoliberalism? Within a context of high spatial mobility, how does the mobile phone re(configure) embodied modes of travel? To what extent has the mobile phone enabled, reinforced or constrained physical movement across space and place?

In Zambia, the use of location-aware technology is relatively rare. Mobile phones therefore mostly protect locational privacy and are unable to divulge the whereabouts of individuals. Mobile phones then enable certain forms of surveillance and control over individuals which are not made possible by landlines. They also can be treated as individual repositories of information in many ways but the profound absence of information on place offers users the opportunity to move without having to disclose location. The absence of information on physical space is often cited as one of the key drawbacks of mobile technology in the Zambian context. The impossibility to trace mobile phone users is linked to local notions of unpunctuality and plain lies around place and location. The fact that users on the move cannot be traced offers them a sense of freedom from control but this is increasingly provoking severe anxieties and causing breakdowns in social relationships. While the lack of location-aware mobile phones in Zambia has therefore threatened social ties, the mobile phone has, however, also offered individuals the option not to move but to travel across virtual space, hereby enabling Zambians to maintain social ties through the mobile phone. Hence, it could be argued that the mobile phone has produced physical immobility while at the same time enabling virtual mobility through calls, texting and emailing. Because of the high costs of road travel and the time involved in travelling long distances, the mobile phone has made an increasing number of Zambians stay put at home rather than moving about to visit their friends and relatives. The paper then argues that mobile phones in Zambia are associated with the production of certain forms of mobility and immobility which on the one hand induce anxiety and hamper trust, but on the other hand create freedom and agency. While dominant approaches to ICTs have mostly celebrated their empowering potential in Africa, this paper considers the potential of mobile phones in bringing about emancipation while simultaneously treating these technologies as always embedded within complex relations of economic, social and political power which may have potentially limiting effects.



Continuous connectivity, handheld computers, and mobile spatial knowledge

Wilson, Matthew

As geospatial information seemingly moves from users' personal computers to 'the cloud', the use of the phrase 'geographic technologies' has increasingly indicated things beyond desktop GIS. With these shifts in the distribution of geospatial data and practices, and the rise of the geoweb as a site of inquiry, new concepts are needed to better understand the conditions of geographic technologies. In this paper, I conceptualize one such element of interactivity: connection. Here, I argue that a logic of continuous connectivity underlies the development of digital spatial media and influences the contemporary production of spatial knowledge. For those lives lived that are presumed to be 'always-connected', interactions are figured by these connections to digital media. Many of these digital devices (especially mobile ones) become functional only through a series of connections to data and communication networks. For instance, mobile phones are in continuous communication regardless of direct use, 'listening' to cellular towers and analyzing proximity to deliver the best possible connection. From these system-level codes that maintain device connectivity to software-level codes that push and pull data to and from 'the cloud', being always-connected is part of a cultural milieu that has diverse implications not only for attention but also for the development of collective, spatial knowledge. Here, I situate the emergence of continuous connectivity in the marketing of handheld computers in the late-1990s, to historicize the importance of connection for understanding geospatial practices.

Weaving the Web into the Physical World

Zeman, Nicholas

Interaction with technology is no longer based on the model it has been for the past 50 years. Traditionally, computers were tied to a single space in the office or home. With the advent of wireless networking, laptops and PDA's, the genesis of mobility began to make computing something we could do while in motion. The newest chapter in our interaction with data and technology is the fully mobile smart phone. In a few short years, we have exponentially expanded our ability to access, transmit, and process data from a mobile device small enough to fit in our pocket. We may soon reach total saturation, when we are able to access any data, any place, any time. This will begin to change how we fundamentally interact with information and communicate with each other. Our interaction with technology will become completely integrated into our physical life (Kurzweil, 2009).

Currently, we "enter" into the internet or network from the outside in, accessing a computer or device and querying it through some input for some specific information, or communicate to one another. Although we are now taking the internet with us everywhere we go, we are still "coming to technology" in a sense, rather than technology coming to us (Kurzweil, 2009).

The proliferation of location-based data will allow this integration. Pioneering efforts in GPS browsers are now relaying information about a specific place to your mobile device, and have specific items, images, or data placed at locations. Wikitude, and Layar give out information about places like a browser, but based on location. Layers of metadata are already being created for specific places, which are then accessible by anyone with a capable smartphone. As this trend continues, we will begin to see the internet and information as a part of the world around us.

Despite the current ability of data to be integrated with our physical world, we still rely on the clumsy keyboard and screen to interact with it. The technology to integrate these visual elements with our normal human vision is being developed (Parviz, 2009). Contact lens LED displays and location-based information can create an entire world of content that we interact with in our normal, human lives. It would free us from the cumbersome need to carry around mobile devices, and allow us to interactively participate in the internet and communication in a visual sense, rather than through a tiny screen on an iPhone. Once we are free from the phone as our only interface with the digital world, we will suddenly see technology participate in humanity, versus humanity participating in technology.

For example, a "web layer" would be superimposed on your field of vision, in which all the aspects of your mobile device would exist, floating in 3D space. Motion and pixel trackers would allow you to interact with graphic elements much as you do on a touch screen now. We would be able to input text based on a floating keyboard or



other manner of input. The military is funding thought recognition software currently, as one method to circumvent the need for a keyboard (Bland, 2009). There are also a myriad of devices to receive input from other sources, such as the ones used by people with disabilities.

Imagine looking at a tree on a college campus and being able to access any information about it. What type of tree it is, its age, when it was planted, etc... Imagine a person's ability to add a layer of data to that, perhaps a poem about its inspiration to them. Imagine another person leaving a note about how they experienced their first kiss underneath that tree. All of this would be accessible to the passerby, just like a Wikipedia page. These would all be accessible while looking at the tree, without having to access a mobile device.

The result will be an emergence of technology's abilities to be woven into the fabric of reality, and augmented reality is the new model of how we will use and interact with technology.

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