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Andrea Zeffiro

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# The Persistence of Surveillance: The Panoptic Potential of Locative Media

Andrea Zeffiro
Concordia University

In July 2002, a group of international artists and researchers congregated in Karosta, Latvia on an abandoned Soviet-era military city, united by a common interest in the social and cultural potential of mobile ad-hoc social networks, and location based technologies. The outcome of this meeting was the inauguration of locative media, which according to Finnish artist and activist Minna Tarka, is a sub-area within the ubicomp (ubiquitous computing) environment and is a loose term for artists, developers and activists exploring the possibilities of mobile, location-based technologies. According to the event's organizing group, the idea behind the workshop was twofold: first, as "an explicit acknowledgment of Virilio's idea that 'one cannot understand the development of information technology without understanding the evolution of military strategy'; and second, as an attempt to locate the event outside of the global market from which these technologies have emerged" (Locative Media).

Locative media connects to a longer tradition associated with communication technologies and the arts, notably artistic experimentation with telecommunications media in the 1970s. Yet, what sets locative media apart is a commitment, engagement, deployment and articulation to Lisa Parks' query; "how might Western controlled satellite technologies be appropriated and used in the interests of a wider range of social formations?" (Parks, 2005, p. 10) In what

follows, I will briefly outline locative media's relationship to and its radical break from surveillance technologies. This diminutive analysis will in turn isolate the intrinsic tension of locative media; its anomalous position, as an appropriation *and* assimilation of surveillance technologies.

Within the past several years, surveillance technologies have received an increasing amount of critical attention. While issues surrounding surveillance are multidimensional and taken up within competing discourses, there are two issues in particular that tend to resurface; the use of surveillance technologies post 9/11 and the integration of tracking technologies within mobile communications. In many ways, the consequences of 9/11, notably the push towards enhancing international security measures, has called attention to surveillance technologies, particularly those less suspecting consumer products that are ingrained within everyday life such as mobile phones, PDAs and laptops. These technologies, also referred to as location aware, exemplify what has been referred to as geosurveillance; a mode of surveillance concerned with locations and distributions across spatial territories (Crampton, 2003, p. 137).

In *Spying with Maps: Surveillance Technologies and the Future of Privacy*, Mark Monmonier investigates the relationship between mapping practices and geosurveillance, in terms of what he refers to as surveillance cartography. As Monmonier explains, "[i]n the new cartographies of surveillance, the maps one looks at are less important than the spatial data systems that store and integrate facts" (Monmonier, 2002, p. 1). Perhaps more compelling is the fact that these spatial data systems, which are composed of a large number of readily

accessible databases, monitor locations in real time and also store data indefinitely, which can in turn, be applied to reconstruct movements of people and things (Monmonier, p. 1-2). In fact, there are numerous technologies implicated in cartographies of surveillance, many of which are engaged in locative media projects. In what follows, I will briefly describe the Geographic Information Systems (GIS) and the Global Positioning System (GPS), two examples of surveillance technologies that are essential in locative media practices.

Geographic Information Systems store, analyze and display geographic data. Toward the end of the 1980s, GIS replaced paper maps as the primary form of map analysis (Monmonier, 2002, p. 3). More importantly, this substitution encouraged American governmental agencies to shift focus from making maps to compiling electronic data. This change also filtered into academic institutions, where GIS eventually replaced traditional cartographic courses (Monmonier p. 3). An example of GIS is online mapping services such as MapQuest.com. This application relies on a massive database that links addresses to geographic coordinates[1].

In addition, GIS relies on the global positioning system (GPS), which is a worldwide satellite-based radio-navigation positioning system that was developed by the United States Department of Defense and is conveniently operated by the Air Force (Monmonier, 2002, p. 12). This worldwide MEO (medium or middle,

[1] Specifically, GIS uses address ranges (on both sides of a street) to locate a specific address (Monmonier, p. 3-4). Yet this address-to-map technology, although not directly tied to the military, nevertheless has it origins in a tool used by the U.S. Bureau of the Census in the 1960s for tabulating census returns (see Monmonier, p. 5).

earth orbit) satellite navigational system consists of a constellation of 24 earth-orbiting satellites, which are situated in six orbital planes, positioned 60 degrees apart and inclined 55 degrees above the equator. The constellation is distributed in a circular orbit with an altitude of 202, 000 kilometers, and the entire system makes two complete orbits every 24 hours, tracing the same ground-track across the earth approximately every 12 hours (Monmonier, 2002, p. 13-14; Brain & Harris, 2006, p.1).

A GPS receiver acquires positionality by locating four or more of these satellites and uses this information to deduce its own location. In order to calculate positioning, a receiver requires two pieces of information: 1) the location of at least three satellites; and 2) the distance between its position on the ground and each of those satellites (Brain & Holmes, 2006, p. 2). This operation is based on the three-dimensional triangulation of intersecting circles (Monmonier 2002, p. 12, 174, 181), and each circle expresses a range of locations equidistant from one of the satellites. It is the point of intersection shared by the circles that situates the location of a receiver.

A standard GPS receiver will not only place an individual on a map at any particular location, it will also trace one's path as movement occurs; if the receiver remains 'on', it maintains constant communication with GPS satellites tracking locational changes. The satellites transmit signals that allow one to determine, with great accuracy distance traveled (odometer), length of travel, current speed (speedometer), average speed, a 'bread crumb' trail showing the location traveled on the map, and the estimated time of arrival at the destination

(Brain & Holmes, 2006, p 1-3). Generally, GPS is used in applications where precise positioning is necessary.

For Monmonier, a more contentious application of GPS is its convergence with GIS, GPS and everyday wireless communications. For instance, the GPS chip in a cell phone calculates one's coordinates, which is then forwarded by the wireless network to a tracking centre, where location is plotted on a map by a GIS (Monmonier, 2002, p. 175). Moreover, when satellite tracking and commercial applications intertwine in the form of location-based-services (LBS), location can be bought and sold, resulting in the commodification of location (Monmonier, p. 175).

Locative media practitioners maintain that one of the field's defining characteristics is its separation from Location-Based Services (LBS), those corporate to corporate, business-to-business and business-to-user services such as fleet tracking and in-car navigation. This distinction is significant given that locative media shares technologies with location based services, yet has a different agenda.

The inaugural workshop[2] that instituted the conceptual framework for locative media focused on plausible modes of harnessing those technologies that evolved via military strategy and global market forces. In accordance to the workshop mandate, emphasis was placed on the appropriation and retooling of surveillance and control infrastructures with the hope of distributing these technologies beyond the 'command and control infrastructure' (Hemment, 2004, p. 3). CitiTag and GPS:Tron are two of the many locative media projects invested

[2] This workshop was hosted by RIXC, an electronic art and media center in Latvia.

in appropriating surveillance technologies in location-based mobile gaming. CitiTag is a collaborative project between HP Labs and the Open University's Knowledge Media Institute (KMi). Touted as a wireless location-based multiplayer game, CitiTag was designed to, "enhance spontaneous social interaction and novel experiences in city environments by integrating virtual presence with the physical". Using GPS and WiFi[3] enabled iPaq PocketPCs, players roam the city with the intent to 'tag' opponents, who can also initiate 'tagging'. Accordingly, players can tag and be tagged on the basis of one's proximity to opponents. Once tagged, a player is excluded from game play until they are untagged by a team member.

GPS:Tron an adaptation of the classic arcade game for mobile phones, although game play moves beyond the screen, unfolding simultaneously on the mobile device and through physical play; as players move in real space, they are tracked by GPS and are required to monitor their physical location as detailed on the phone. This form of self-monitoring is essential to the game as player ranking within the game depends on physical location. That is, players are represented by a digital line and must ensure that their line does not cross itself or a line belonging to an opponent. If a line is crossed, the game crashes.

From a technological perspective, locative media is an example of location aware computing, a combination of mobile communications, such as Personal Digital Assistants and mobile phones, and geosurveillance. Even though locative media

[3] WiFi: Wireless Fidelity. WiFi is a limited-range wireless networking protocol based on the 802.11 family of standards. As such, it uses spectrum in the 2.4 GHz range to exchange data at broadband speeds. Often used in WLAN (Wireless Local Area Network), which is a local area network that uses high frequency radio signals to transmit and receive data over distances of a few hundred feet.

projects assimilate technologies associated with surveillance and control infrastructures, projects are often cited as public artworks and research-vehicles for location based technologies and applications.

A report summarizing the events of the inaugural workshop in 2002 emphasized the social, cultural and technological span of locative media. "Inexpensive receivers for global positioning satellites have given amateurs the means to produce their own cartographic information with military precision…the focus here is spatially localized, and centered on the individual user; a collaborative cartography of space and mind, places and the connections between them" (Tuters & Varnelis, p. 1).

The democratic potential afforded by locative media is that it, “at once exposes the operation of surveillance technologies, and reverses, multiplies and diffracts the gaze by giving people the opportunity to take ownership over the tools and the data generated” (Hemment, p. 4). However, the command and control infrastructures challenged by locative media differ from seminal theoretical models, most notably Foucault’s account of the transformation from a discipline-blockade to a discipline-mechanism that occurred between the seventeenth and eighteenth centuries. The discipline-blockade was modeled on an enclosed institution, meaning it maintained a separation from the social body in the form of enclosed institutional boundaries. The discipline-mechanism, however, signaled a generalized extension of disciplinary measures throughout the social body into what Foucault cites as ‘the disciplinary society’ (Foucault, 1995, p. 209). In the disciplinary society, mechanisms of domination are imposed within very specific

institutional frameworks that restrict and regulate behaviour.

Fundamental to Foucault's articulation of the disciplinary formation is his adaptation of Jeremy Bentham's Panopticon, which he refigured as a self-imposed disciplinary mechanism, in which the individual, privy to the possibility of being watched, internalizes the act of surveillance through self-discipline. Moreover, the act of self-control is premised on the knowledge that one is potentially being watched. In this sense, the mechanism of surveillance is contained between seer and seen, forming a unified and contained structure. Even as Foucault's model continues to offer substantial insight into mechanisms of discipline and control, his panoptic metaphor fails to account for ubiquitous and dispersed modes of surveillance inherent to locative media. Technologically then, the movement from whole to dispersed modes of surveillance is connected to third generation computing. First articulated in 1991 by Mark Weiser and his research team at Xerox Palo Alto Research Center (PARC), it accounted for the transition from large mainframe computers of the 1960s and 1970s, to the desktop computer of the 1980s and 1990s, towards ubiquitous computing (Gow, 2005, p. 1). Weiser traces the emergence of third generation computing as a shift towards computing devices embedded in everyday objects and places; to the development of intuitive, intelligent interfaces to make computing devices manageable and unobtrusive for users; and finally, the development of communications networks that connect devices for anytime, anywhere data communications (Gow, 2005, p. 2). In terms of surveillance practices, the difference between Foucault's panopticon and Weiser's articulation

of third generation computing is that in the panopticon, technologies of surveillance are visible and immobile, which is to say, consciously apparent to individuals. However, in third generation computing, technologies of surveillance are invisible and pervasive – nowhere and yet everywhere – reconfiguring the dynamic between seer and seen; one is 'watched' all the time, yet by no one and from nowhere is particular.

The agenda purported by locative media practitioners, that being to democratize accessibility to the tools and the data generated via surveillance technologies, is complicated by the fact that surveillance and control technologies are necessary in the formation of locative media. As Donna Haraway urges in "The Persistence of Vision," "one cannot relocate in any possible vantage point without being accountable for that movement. Vision is *always* a question of the power to see" (Haraway, 1988, p. 287). The act of appropriation necessitates assimilation. Therefore, a redirection of surveillance and control technologies demands that one examine the extent to which locative media might challenge or be complicit within the operation of power (Hemment, 2004, p. 4). In order to meet its democratic agenda, locative media should, in the very act of appropriating, disrupt rather than secure the act of appropriation. The radical potential of locative media is situated in revealing its processes of production, and locating and situating the terms of access to military infrastructures and capitalist ventures[4]. It is only from here, from a position of located accountability, that artists, activists and researchers will be able to reveal

[4] One locative media project that exemplifies this is MILKproject by Esther Polak, Ieva Auzina and RIXC <http://milkproject.net/en/fla/main.html>.

locative media as a process of social negotiation involving multiple actors and complex power relations[5].

**References**

Brain, M., & Harris, T. (2006). How GPS Receivers Work. *How Stuff Works*. Available at: http://electronics.howstuffworks.com/gps.htm

Crampton, J.W. (2003). Cartographic Rationality and the Politics of Geo-surveillance and Security.*Cartography and Geographic Information Science 30(2)*,135-148.

Deutsche, Rosalyn. (1996). *Evictions: Art and Spatial Politics*. Cambridge & London: MIT Press.

Foucault, M. (1995). *Discipline and Punish: The Birth of the Prison*. Trans. Alan Sheridan. New York: Pantheon.

Gow, G. A. (2005). Privacy and Ubiquitous Network Societies: Background Paper. *International Telecommunication Union Workshop on Ubiquitous Network Societies*. Available at: http://www.itu.int/osg/spu/ni/ubiquitous/UNSChairReport.pdf

Haraway, D. (1997). The Persistence of Vision. *Writing on the Body: Female Embodiment and Feminist Theory*. Eds. Katie Conboy, Nadia Medina and Sarah Stanbury. New York: Columbia University Press.

[5] For further readings, please consult the Leonardo Locative Media Bibliography, collaboratively produced by Drew Hemment, Steve Bull, Elizabeth Goodman, Pete Gomes, Derek Hales, Hana Iverson, Paula Levine, Ann Morrison, Teri Rueb, Alison Sant, Leslie Sharpe, Jen Southern, Nick West and Nisar Keshvani. <http://www.leoalmanac.org/resources/biblio/locativemedia.asp>. And <http://www.mobilegaze.com/art_links/locative.html>

Hemment, D. (2004). *Locative Dystopia 2.* Available at: http://locative.net/tcmreader/index.php?locarts;hemment-dystopia

Lyon, D. (2001). *Surveillance Society: Monitoring Everyday Life.* Buckingham & Philadelphia: Open University Press. Locative Media (and Ad-Hoc Social Networks). Online posting at: http://locative.x-i.net/intro.html. 17 Feb. 2006.

McGrath, J. (2004). *Loving Big Brother: Performance, Privacy and Surveillance & Space*. London & New York: Routledge.

Monmonier, Mark. (2002). *Spying with Maps: Surveillance Technologies and the Future of Privacy*. Chicago & London: The University of Chicago Press.

Parks, Lisa. (2005). *Cultures in Orbit: Satellites and the Televisual*. Durham & London: Duke University Press. Russell, Ben. TCM Online Reader: Introduction. *The Transcultural Locative Media Reader.* Available at: http://locative.net/tcmreader/index.php?intro;russell

Tuters, M., & Varnelis, K. (2006) *Beyond Locative Media*. Available at: http://netpublics.annenberg.edu/locative_media/beyond_locative_media