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LEMOS, André. Mobile communication and new sense of places: a critique of spatialization in cyberculture.

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Revista Galáxia São Paulo, n. 16, p. 91-108, dez. 2008.

Mobile communication and new sense of places: a critique of spatialization in cyberculture

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Abstract: The underlying idea of this paper can be expressed as follows: informational mobile technologies have enabled new means of communication and sociability based on what I call “informational territories”. What is at stake here is to question some visions about the relationship between informational technologies and place, territory, community and mobility. I will argue that, under the label of “locative media”, new mobile technologies are creating new forms of territorialization (control, surveillance, tracking) and new meanings of space, place, and territory, contradicting the theory of “non-place” or “no sense of place”. Moreover, this impels us to argue the ideas of anomie and isolation with the emergence of new forms of sociability and community created by location-based services.

Keywords cyberculture; mobility; communication; locative media

Resumo Comunicação móvel e o novo sentido dos lugares: crítica da espacialização na cibercultura

— A ideia básica deste artigo pode ser colocada da seguinte forma: tecnologias informacionais têm permitido novas formas de comunicação e sociabilidade com base naquilo que chamo de “territórios informacionais”. O que está em jogo aqui é uma nova relação entre as tecnologias informacionais e as dimensões do local, do território, da comunidade e da mobilidade. Vamos mostrar como as novas tecnologias móveis, sob o rótulo de “mídias locativas”, criam novas formas de territorialização (controle, vigilância, monitoramento) e, contra as tese de “não-lugar” ou de um “não sentido dos lugares”, o que estamos vendo são novas significações no espaço público urbano. Além disso, discutiremos as ideias de anomia e de isolamento com o surgimento de formas de sociabilidade e de vínculo comunitário criadas pelos serviços baseados em localização (LBS).

Palavras-chave cibercultura; mobilidade; comunicação; mídias locativas

Locative media

Locative media is a combination of location-based technologies and location-based services (BENFORD et al., 2006, 2005; CHANG and GOODMAN, 2006; McCULLOUGH,

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2006; POPE, 2005; BARKHUUS et al., 2005; HIGHTOWER, 2001; RAO and MINAKAKIS, 2003; SMITH et al., 2005). The term locative media was proposed in 2003 by Karlis Kalnins, at the Center for New Media, in Riga, Latvia, to distinguish corporate use of location-based services from artistic proposes. Location-based technology is the set of digital devices, sensors and digital wireless networks (GPSs, mobile phones, laptops, palms, Wi-Fi, Bluetooth and Wi-Max, RFID, etc.) constructed to allow exchanges of information with the physical. Locative media can be used for locating, mapping, access to services and information, art or games (BENFORD, CRABTREE et al., 2005; BENFORD and MAGERKURTH, 2005; BENFORD et al., 2004).

The content and the information exchange generated by these devices and networks are location-based services. Location-based services can be classified into information and directory services, tracking services, emergency services, navigation, advertising and promotion, art and games. These can be grouped into 4 basic categories: search for location (maps, real time traffic, services), personalized services (based on the profile of the user), niche consumption, corporate and industrial applications (track material, consumers, suppliers and employees), art projects and games (KARIMI and HAMMAD, 2004; LONTHOFF and ORTNER, 2007). Locative media has mass

media and “post-mass media” functions, as I explained in an earlier paper (LEMOS, 2006 and 2007c, 2007d).

Locative media are ubiquitous and pervasive. Mark Weiser proposed the term

“ubiquitous computing” in 1991 when he founded Ubicomp. We can define ubiquitous computing as a computational process integrated and sensitive to the external environment, widespread in diverse objects (WEISER, 1991 and 1993). Locative media are examples of applications and services using the ubiquitous and pervasive computing proposed by Weiser. HINSKE et al. (2007) explain that IBM introduced the term “pervasive” in 1998 to describe the “paradigm that deals with the integration of computers in our surroundings.” For the purpose of this paper, I will not differentiate between pervasive and ubiquitous computing.

I have shown in other papers (LE MOS, 2006, 2007a, 2007b, 2007c, 2007d, 2007e) that locative media projects can be classified into four main fields: 1. “Urban Electronic Annotations” (new ways to “write” the urban space with mobile devices, like Yellow

- ¹ Post-mass media functions operate from technologies and networks where the user can produce information, “releasing” the editorial center. They are not State concessions and allow customization, publication and dissemination of information worldwide, with multimedia capabilities. The product is customizable and the communication is biased by conversation (the role of the mass media is “information”, while the post-mass media function is “communication”). We can see these functions with the development of blogs, free software podcasting, wikis, and collaborative maps. They operate under what I call the three basic principles of cyberculture: “release of the emission”, “bidirectional connection” and “reconfiguration” of cultural institutions and industry (LE MOS, 2006). Also, we must think in terms of function, not of devices (a large portal on the internet tries to act as a massive journalistic mass media, while printer fanzines and yers have post-media functions).

Arrow,² Sonic City³; 2. “Mapping and Geo-Localization” (to attach information — photo: text, video, sound — to maps, to build bottom-up maps that represent communities — like “Neighbornode”⁴, “Peuplade”⁵ or Citix,⁶ or to plot and trace with a GPS device, like my project SUR-VIV-ALL⁷ in Edmonton, Canada); 3. “Location-Based Mobile Games” (on-line games that use mobile devices with locative capabilities in urban spaces, like “Uncle Roy All Around You”,⁸ “Pac-Manhattan”⁹, or the Brazilian “Senhor da Guerra”¹⁰ and Alien Revolt.¹¹ Here the city becomes a playground, the “game board”) and; 4. “Smart Mobs” (political and/or aesthetic — Flash Mobs — mobilizations coordinated by mobile devices, usually cell phones and SMS texts to perform an action and disperse rapidly, like political protests in the Philippines against President Estrada, in Madrid after the terrorist attack on the trains in 2004; in São Paulo with the criminal organization PCC plotting attacks all over the city, or student protests in Chile in 2006 and 2007 against Microsoft, in Shanghai in 2007 against the expansion of maglev tracks, in Pakistan against President Pervez Musharraf, or in Uganda for women rights).

All of these experiences with locative media indicate that mobile technologies do not aim to produce virtual worlds with which to replace the real world, or a deterritorialization process. Instead, they emphasize control, territorialization, and the production of content that is bound to objects and places. We must avoid a romantic and dichotomous view of these new cyberculture processes and try to understand new and old meanings of concepts such as territory, place, mobility, and community.

Territory

We constantly encounter territories and boundaries. Territories are controlled areas with defined borders where the mobility and through flow is regulated (in terms of speed, forms of access, power and amplitude). Borders are membranes and allow communication. Control and surveillance are means of monitoring and tracking movements and flow within

² <<http://yellowarrow.net/index2.php>>.

³ <<http://www.tii.se/reform/projects/pps/soniccity/index.html>>.

⁴ <<http://www.neighbornode.net/>>.

⁵ <<http://www.peuplade.fr/home/>>.

⁶ <<http://www.citix.net/pages/sobre>>.

⁷ <<http://www.facom.ufba.br/ciberpesquisa/andrelemos/survival/>>.

⁸ <<http://www.uncleroyalaroundyou.co.uk/street.php>>.

⁹ <<http://pacmanhattan.com/index.php>>.

¹⁰ <<http://www.senhordaguerra.com.br/>>.

¹¹ <<http://www.alienrevolt.com/pt/>>.

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territories. So, in thinking about territory one must take into account mobility and flow, surveillance, violence and means of exercising control. To understand mobility and flow using the new locative media technologies, we must consider not only physical territories but also new forms of informational territory, as will be shown later.

This concept is complex, referring to various fields, from the demarcation of an area of political and economical sovereignty (international relations), the expression of collective identities (anthropology), forms of control and hierarchies within social relationships (sociology), and “inner space” in relation to privacy, comfort and emotional subjectivity (psychology). The notion of territory can be understood as a dynamic struggle between flows across borders (religious flow, identity flow, geographical flow, economic flow, etc.) around places. Globalization has created new problems with borders, increasing

their porosity and developing new methods of communication. This has created a crisis in the territory dimension (nation state, body, subjectivity, culture, politics, economy). Now more than ever, we must see territories (physical, geographical, subjective, political, informational) not as sealed “boxes”, but as “hubs”.

Space, places and territories are social productions. Places act as loci of meaning and memory, permeated by intense flows that create a sense of belonging. Within these places there are zones of control and tension within borders and territories. Territory is a polysyllabic concept. The complex dynamic between territorialization (control and institutionalization) and deterritorialization (movement, smooth space) gives social meaning to places and space (see LEMOS, 2006). Place is “events” created by territories, fluid areas of control produced by territorial negotiation (horizontal dynamics) and negotiations between places (vertical dynamics). Space produces places and is produced by places. Moreover, space, place and territories can be seen as waves of territorialization and deterritorialization in an endless process. Consequently, we must not see territory as “natural”, but as a cultural artifact, a social product linked to desire, power and identity (DELANNEY, 2005). Social life produces significance in space and the places that reshape spaces.

Place

Place is an essential dimension of human existence. It is a form of seizure of the world, an “a priori” for Kant, an ontological need for Heidegger. We have “to build a dwelling” to inhabit the world. This construction is a production of place. Men need to transform the external environment through technique, language, and institutions to fill it with meaning so that it can be inhabited. Without that production, man does not exist as a cause and place “produces” society, not the opposite. Places are created by territorialization dynamics. They are “events” (THRIFT, 1999 and FEBVRE, 2004) For Tuan (1974), space is generic; it is movement, and place, the particular, the stop, the “home” of community. Place can be seen as fixed borders, institutionalization, and permanent

control of an area of the generic space. As Cresswell (2004, p. 12) put it, “place focuses on the realm of meaning and experience. Place is how we make the world meaningful and the way we experience the world”.

With the evolution of society in the industrial age and the growth of movements and flow of goods, capital, people and information, places cannot be seen as fixed portions of space or as anchoring points for communities. Seen as a point of attachment and roots, places disengage with the increasing mobility of modern societies. We need to understand

places disappear with the increasing mobility of modern societies. We now have new dimensions of place, and they have become intersections of flows (SHIELDS, 1999; CRESWELL, 2004; MASSEY, 1997; AMIN and THRIFT, 2002; COULTRAY and McCARTHY, 2004), “hubs”, dynamically produced in time. This goes against the idea that globalization causing places to dissolve into “no places,” that “lose their sense”, and that speed and space and time compression are “erasing them”: Tuan (1974, 2003), Harvey (1989), Meyrowitz (1985), Virilio (1984), Augé (1995) that sustain a diagnosis that places are dissolved into “no places,” that “lose their sense”, and that speed and space, and time compression are “erasing them”. Thus, mobility and flow destroy, erase and weaken places. As Pred (1984 p. 279) argues, “places are never ‘finished’ but ‘always’ becoming.” Place is what takes place ceaselessly, what contributes to history in a specific context through the creation and utilization of the physical setting. Or, as Thrift puts it, places are ‘stages of intensity’ traces of movement, speed and circulation (1994, p. 212-213, cited in CRESWELL, 2004, p. 48). Places are in process, and as Massey says, “instead of thinking of places as areas with boundaries around, they can be imagined as articulated moments in networks of social relations and understandings”. (CRESWELL, 2004, p. 69).

Changes in the functions of places is what Foucault (1984) called heterotopy. Heterotopies are functions of places,

real spaces — spaces that exist and are trained in the very foundation of society — which is something like counter-sites, species of utopias held in which all the other real sites where a given culture can be found, and where they are represented, challenged and reversed (FOUCAULT, 1984).

In a previous paper I demonstrated how cyberculture is creating new heterotopias based on Foucault’s five principles (LEMOS, 2006). We can hypothesize that informational territories create new heterotopias of places and new informational functions. Informational society has created a new heterotopy (informational control) within places. Place (public or private) such as squares, shopping centers, schools, offices, hospitals, libraries, banks, and so on are changing with informational networks and informational territories. There are also new temporary uses of these spaces and a merging of different functions, including new forms of control, access, and surveillance, and new forms of openness and closeness (passwords, access profiles, etc.). Informational territory creates new heterotopias, new functions for places and a redefinition of social and communication practices.

It is not the end of squares, schools, homes, shopping centers, hospitals, offices, etc., but rather, a new meaning (new functions) for these spaces. New heterotopias create a

revitalization of places.

Locative media projects can help us see places and space differently. Locative media do not point to a world of electronic cyberspace apart from the physical world. Instead, they insist that what they produce are “augmented realities” for playing on the street, in annotation, mapping and tagging real things. What we are seeing now are several examples of integrated, mixed processes that merge electronic and physical territories, creating new forms and new senses of place. Therefore, the fears of loss of reality and deterritorialization appear to be unfounded. When we create tags and maps, use a GPS with a mobile phone to find a location, produce content and electronically annotate a place, play location-based mobile games or organize mobilization in public space by SMS, we are controlling the space and creating a new sense of place and new forms of territorialization.

Informational territory

It is not out of context to think that the contemporary information society creates new kind of territories: informational territory. It is plausible to think that the information society produces new territories. Informational territories can be understood as areas where informational flow in the intersection between cyberspace and urban space is digitally controlled. Here, users can either control inputs or outputs of information data. The informational territory creates a new function of place, a heterotopy. I understand informational territory as the area of control (and to be controlled by) of digital information flow in an intersection with a physical area. So place, as a result of territorialization (geographic delimitation, laws, and regulations), gains a new layer of information that is a new territory created by electronic networks and mobile devices.

By informational I mean digital, electronic informational flow. All territory is made of information, although, in using the term informational territory, I want to differentiate digital information layers from other forms of “information”. Wireless networks, sensor and mobile technologies that open up new uses of place create digital information layers. The informational territory is not cyberspace, but the territory in a place formed by the relationship between the physical dimensions of territorialities and the new electronic technologies, creating a new form of territorialization. The place becomes more complex because this territory is now related with other territorialities (laws, regulations, subjectivities, culture and politics). Empirically, we can see these informational territories by examining the use of public spaces equipped with the new infrastructure of wireless networks and devices from ethnographic research showing the relationship of users with the space before and after the formation of informational territories.

It is correct to see cyberspace as a “digital territory”, as Kameas and Stamatiou (2006) argue. They say that artificial digital worlds or cyberspace can be mathematically modeled as a “digital” or informational territory:

Nowadays, it seems that we are close to the development of the foundations of yet another “Artificial” concept: the Digital Territory (DT). [...] In a few words, the concept of a Digital Territory seems to integrate Artificial Life with Artificial Intelligence: it describes worlds with moving agents which, however, move in complex terrains that contain elements of both the physical and digital world (as opposed to organisms living within a computer simulation program) as well as “real” intelligence, since it integrates devices with human beings in a complex pattern of interactions. (KAMEAS and STAMATIOU, 2006)

Others speak in terms of a “bubble” (BESLAY and HAKALA, 2005) or a “cloud” (VANDER WAL, in ROUSH 2006). These images are interesting and show a picture of the “form” of the informational territory. However, neither “digital bubble” nor “digital cloud” offer the ontological dimension of place; they do not inform about the basic principles of these bubbles or clouds. I propose the concept of informational territory because, although it may take the form of a “bubble” or “cloud”, it indicates here not a form but a function, a way the place is reconfigured by technology, sensors and digital mobile networks. If we think about territories, we can see the new dynamics, new forces and new powers being established in places through these devices and networks (here we can face political problems like surveillance, monitoring, privacy, the digital divide, and so on).

Thinking about territory is thinking about control and power that the image of the bubble or cloud does not reveal. A place is always controlled (by law, ethics, moral, rules); it always consists of territorialization and tension with deterritorialization (new laws, changes in ethics or morals, etc.). The notion of informational territory allows us to see new processes of control (information), adding more complexity to places. This means the user can control what to receive and what to produce in terms of information, but has to deal with other forms of power and control (other territories) present in any place.

It is known that there is a shift of power as disciplinary confinement (FOUCAULT, 1984) to tracking and control mobility (DELEUZE, 1980): CCTV, passwords and profiles, RFID tracking systems, cell phone ID surveillance, GPS tracking, and so on. Informational territories reflect new dimensions of territoriality, new relations of power and new social practices of mobility in contemporary society. Mobile technologies and networks create new forms of mobility (informational, as I will show) in institutions of confinement by allowing deterritorialization. Informational territory implies at the

same time, dissolution and creation of new forms of controls and mobilities redefining places nowadays. We must understand mobility to grasp all the dimensions of locative media today.

Mobility

Projects in locative media, such as urban annotation, location-based mobile game mapping, flash and smart mobs can be seen as a new city language, spoken using new mobile technologies and networks. Just as Tonkiss argues in her analysis of graffiti and street art practices, we can say that locative media "take(s) the surface of the city as a space in which demands may be advanced, identities inscribed and challenges" (2005, p. 140). Mobile technologies and networks change our everyday experience of places. Consider the use of mobile devices like cell phones and laptops: the search for hotspots makes people sit in place instead of another; the exchange of phone calls or SMS creates a new movement on the streets and new forms of synchronicity or meetings; the current methods of location-based mapping change the way people view, and interact with, the city structure; access to information on mobility in blogs, micro-blogs or social software changes the way people produce content about their experience and links them to their community. These technologies are producing a new pace to everyday life, and new mobilities within places.

Mobility is inherent to man. A historical perspective shows the systematic creation of mobility throughout history in the development of artificial methods of transport and communication. This need for mobility is also correlated to the need to establish a fixed place, to build a memory, a point in a generic and abstract space, as we have seen. Mobility brings together communication, technological, geographical, economic, cultural and social issues (URRY, 2000; SOROKIN, 1964; McDOWELL et al., 2008; HANNAN, SHELLER and URRY, 2006; HÖFLICH and HARTMANN, 2006; CASTELLS et al., 2007; KELLERMAN, 2006; KWAN, 2007).

There are three ideal types of mobility: "physical/spatial" (transport), "virtual/informational" (media, art) and "cognitive/imaginary" (thoughts, religion, dreams). There are three possible interactions between these mobilities: replacement (if one type of mobility annuls another, e.g., working at home or studying on-line can eliminate the need to move to physical places), complementariness (we can move to have access to information), and additivity (for example, the use of GPS provides access to information on mobile device and this complements the daily displacement) (KELLERMAN, 2006, p. 8). Also, transport and communication systems create new dynamics between private and public spaces, between proximity and distance, between locomotion and shelter, between curiosity and

apathy, between lines of escape and striated space, and between personal and communal networks. Mobility allows us to go from one point to another, whether in imagination, physically or virtually, it allows us to "displace." This displacement is not a denial or a

physically or virtually, it allows us to dis-place . This dis-placement is not a denial of a end of place, but a way of re-meaning it. Mobility and power are complementary processes that create tension between virtual, physical, and imaginary forms.

Communication technologies (with mass and post-mass media functions) reinforce these physical and virtual mobilities. We can understand media as artifacts of informati

mobility in space and time (from the invention of writing to the internet). Today, space-time compression increases through virtual, imaginary and physical mobilities. Wireless technologies meld the physical and virtual, bringing new problems of border between private and public, between “dis-placement” and place. This virtual/informational mobility has direct impacts on physical/spatial mobility, as well as on imaginary mobility. As suggested by Bonss & Kesselring (KELLERMAN, 2006, p. 55), there have been stages of mobility, from the “traditional” (by the end of the 18th century), “territorial” (the emergence of the nation state in the 19th century), “global” (through new means of transport and communication in the 20th century) and “virtualized” (with the new media, internet and mobile technologies). Today, virtual/informational mobility takes on greater importance with the advances in mobile technology and the post-mass media functions because it is now possible to exercise a global mobility that incorporates the physical, imaginary and informational simultaneously. According to Kellerman:

Individuals “carry” with them their own territories. Some of this is becoming apparent through the growing use of mobile phones, laptops and mobile memories, which permit one to carry one’s whole personal library and to have immediate access and communications without any regard to location. (2006, p. 64)

Place remains essential. Without informational AND physical layers, this total mobility cannot exist. So what is new? The possibility to consume and produce information on the go. We can think about the users status, but we can also think about places that are mobile (like airplanes, boats, cars, and trains) that have new virtual/informational mobility with wireless network device capabilities. As Kellerman explains:

Emerging wireless transmissions, whether through laptop computers, or through mobile telephones, which imply an intersection between enhanced physical mobility, or the growing ability of humans to move rapidly and efficiently across the globe, on the one hand, and their enhanced parallel virtual mobility, on the other. (2006, p. 74)

The new informational territories are products of this new state of mobility. Mobility is not just an act of bodies or information, but an act of power. Bonss & Kesselring

ity is not just an act of access of information, but an act of power. Doing a research (KELLERMAN, 2006) have proposed the term “motility”, borrowed from medicine and biology, to think about potential or virtual mobility, the propensity to be mobile, which is likely to vary in intensity from one person to another (KAUFMANN in KELLERMAN, 2006, p. 8). Mobility should not be seen only as the route between points or as a means of accessing certain information, but as a dimension of power and potential power. Today we face a global increase in ‘motility’. However, this potential is constrained by the “extensive power”, i.e., the ability of a person or group to overcome distance (physical, virtual, or imaginary), and the “accessibility power”, i.e., the opportunities available to perform the movement (virtual, physical, or imaginary) (KWAN, 2007). We can see the

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balance of power here in the differences between those who have and those who do not have access to transportation or communication devices.

Temporality

Mobility is also linked to temporality. Locative media are temporary practices in urban spaces. We always use the urban space temporarily: in a car or on public transportation using public restrooms, sitting in a square or strolling through the streets. Moreover, the practice of staying too long in a public space (sleeping on a bench or sitting on the floor in a shopping center, for example) is often suppressed by public authorities. The concept of temporary use has two important dimensions. Use is obviously to use; spend. But use also implies a right; enjoyment. Hayden and Temel explain that:

Use is, in any case, not a quality that is inscribed in things, but rather buildings or spaces of social relationships in the triangle of property, possession and right to use. In that sense, use is a more or less flexible relationship within which people can make various uses of one and the same thing or, expressed more generally, can relate to this thing in different ways — and thus pursue different interests. (HAYDEN and TEMEL, 2006, p. 26-27)

Today, in the age of global networks and flows of information, temporary use of space is increasing: traveling, commuting, and even our homes, which, albeit designed as permanent locations are, in most cases, temporary shelters. With the constant and increasing flow of people, commodities and information, cities are produced by this flow of

movement and temporary use of spaces. However, places are designed (by urban planners, architects, engineers) to be permanent: houses, squares, buildings, monuments, schools, factories, shopping malls.. The modern city locates things and stabilizes movements

with planning rules and through laws (territorializations, striated space, as proposed by Deleuze and Guattari, 1980).¹²

A temporary urban space can be defined as a fixed space with unusual uses; unscheduled, and often illegal (artists using squares as dormitories, meetings of political protest, graffiti, skates, parkour, performances, carnivals, etc.), creating a social meaning and a temporary place. These temporary uses of space create a new meaning of place. Alternative locative media projects are creating new heterotopias in old places, where standard temporary use can become smart or flash mobs, location-based mobile games, electronic annotations, GPS drawing and mapping. Temporary informational use of a place in addition to conventional uses (“regular” uses of mobile technologies and networks —

¹² Indeed, break these laws was the desire of situationists: make the urban objects mobile, put art out of the museums and place them in bars or cafes (deterritorialization of the museums), put the books out of the libraries, on the streets, walk and write stories beyond the sights of official maps.

cyber cafés, public hotspots, cell phones), also evidence a “tactical” (DE CERTEAU, 1984) temporary social production of space. Informational mobile technologies appropriate places for temporary use (strategic and ruled, and tactical and free as well).

Community

The city is a place that insulates people, where there is a lack of contact and a guard of privacy. Community is a social pre-urban form, and only remains today in identity aggregation and sub-cultures as a reaction against societal breakdown. Tönnies marks this difference by introducing the two ideal types “Gemeinschaft” and “Gesellschaft”, although they are interdependent (TÖNNIES, 1971). For Simmel (1950), cities put people “not only into indifference, but, more often than we aware]a slight aversion, a mutual strangeness and repulsion”. Indifference and aversion are two characteristics of modern urban life that are used to preserve “ psychological private property” (SIMMEL, 1950, p. 410). The crowd brings both a collective dimension and a sense of isolation.

Although the city is characterized by anonymity, instrumentality and atomization (TONKISS, 2005, p. 14), community continues to emerge, whether in organized social groups, social classes or new tribes. Here we see the main characteristics of modernity:

instrumental rationality, anomie, individualism, abstract, impersonal, contractual and institutionalized relationships (PARK, 1967). Thinking about today’s mobility and new practices of locative media obliges us to review our social relations and communication

practices of locative media usage as to renew our social relations and communication practices. Could locative media recreate community feelings of belonging? What are the goals of bottom-up projects if not to create more effective communication between people and new ways to fight against anomie and separation?

We need to think about communities in real places, as well as in electronic networks. As many studies about “digital community” showed in the late 1990s, communities can exist without physical proximity (“virtual communities”). Moreover, mobility and flow can improve communities. If we think about place as flow and events, and mobility as a way to move around in physical, informational and imaginary space, we can see communities arising around location-based services and technologies. Fixed place is important to create memory and social meaning and locative media projects, as we have seen, do not point to a “virtual” cyberspace, but to informational territories that relate cyberspace and places that use urban places as physical substrates of informational layers, and that use the street level and real communities (see examples above).

Think about mobile social networks, collaborative maps, urban annotations, bottom-up mobilizations, location-based games, and smart and flash mobs. These are good examples of bounded community. These experiences can be seen as a way to combat the emptiness of urban space, to rebuild social bonds and as a complementary act of physical contacts. Electronic relationships can reinforce communities and the community meaning

of place (FALKHEIMER and JANSSON, 2006). For young people, community consists of their friends and family members that they can meet both face to face and through the exchange of mobile digital information in blogs, micro-blogs, social software, SMS texts and cell phone photos and videos. These on-line relations strengthen face-to-face relations and the use of urban spaces, creating new meanings and temporalities for place and communities. Therefore, chats on Facebook, updates to micro-blogs, synchronization of activities by SMS, and perpetual contact through cell phones are all new activities that reinforce social relationships and community belonging. We must avoid a nostalgic view of communities, places and cities because, in taking this view, we risk losing sight of the urban realm that is growing before us.

Maps

The use of maps and mapping processes with locative media is unprecedented. With new systems such as GIS and GPS, and free software and web systems such as Google Maps and Google Earth, mapping is a new practice of place. Maybe we are realizing

Borges's vision in "Del Rigor en la Ciencia". In this one paragraph, Borges shows a place where the map of an empire has the dimensions of the territory. The map is the territory and mapping is a new means of perceiving our cities (ABRAMS and PETER, 2006; DORLING and FAIRBAIN, 1997; HARMON, 2004; WILFORD, 2000): we can send a SMS to Google to find X café, log onto a system with a cell phone to find where we are, access on-line systems to find Y cinema and the schedule of a film. These systems are enhancing our movements around our cities and creating an "augmented reality", i.e., information layers that interconnect physical and electronic information.

Mapping our moves on the streets allows us to control space; it is territorialization. It is not only about dispossession and getting lost. The use of GPS and other devices for location and location-based services puts the emphasis on control and domination of a territory. These new locative devices allow greater control over an area rather than raising new possibilities for getting lost. As the cartographer Paul Mijksenaar shows, the use of maps and GPS is evidence that people are "frightened of their environment... and do not want to be lost [...] most planners and designers regard the experience of being lost or disoriented as the urban equivalent of a fatal disease" (ABRAMS and HALL, 2006, p. 14). Controlling or losing control, the locative media, one way or another, is giving new functions to places.

The relationship between cities and maps has always been close, but today the power of locative media create new and more efficient correspondence between the two. Electronic maps and mapping with locative media build control and create power over places offering a new social production of space. Maybe the map is becoming the territory or, if put it in another way, the map is producing new social meanings for places. Mapping is

now a creative intervention in urban space, shaping both the physical city and the urban life experience. Technicians, governments and private companies traditionally control mapping, yet we now see an ownership shift, with the bureaucratic power moving to the users — ordinary people. The tactical use of maps (psycho-geography) began with the surrealists, Dadaists and situationists in the '50s and '60s, and was reinforced by Michel Certeau's "rhetoric of walk". With the popularity of electronic mapping, the urban space is being used as a means of giving sense to daily life and of dealing with the constraints of rationalization in urban modernity (TONKISS, 2005).

Mapping and geo-tagging with locative media can be seen as ways to combat the bureaucratization and impersonality of urban space. One example is the uses of GPS for drawing. GPS was originally a military navigation technology, not a tool for artists to play with in urban space. "Writing" and "drawing" invisible lines in space is not so

to play with urban space. Writing and drawing invisible lines in space is not so much about location, but rather a way to propose new readings of space. It creates a deterritorialization of the device and a territorialization of the city. We know that maps are constructions, ideologies representing the world and serving the constitutive power (Rome, Spain and Portugal, British Empire, American military power). Today, with the internet and locative media, mapping can be used to represent people, community, and a more legitimate space and place that shows how people see and feel their environment. We have a button-up process of representing the world, unmediated by the instituted powers. As Denis Wood put it:

The authority of the map is not derived from its accuracy, but from the authority of the person who draws it. The picture is a map when it is drawn by someone with the authority to draw maps. [...] Maps are about social control and are usually created to serve the designs of their creators rather than to inform “the public”. (DORLING and FAIRBAIRN, 1997, p. 71 and p. 65)

Conclusions

Alternative projects in locative media (as opposed to the commodification of mobility and the consumerism of mobile data promoted worldwide by large conglomerates) can help us understand that new informational technologies reinforce our sense of place and create new uses of urban space. It is not cyberspace, or the “virtual” versus the “real”, but the social production of space (and place and territories) with mobile technologies and networks. It is all about physical places, real objects, and real people. These examples can be seen as a new research field, crossing geographical, sociological, communicational, urban, design, and informational boundaries. We face a new turning point in communication studies with new forms of “spatialization”. New mobile technologies and networks show us not the end of place (or cities, or geographies) but new processes of territorialization, mobility and temporary uses of urban space.

The relationship between media and spatialization processes is not new. Spatialization is created by changes in space, by producing places. Spatialization is thus a process of intense flows that creates a sense of belonging. In the 19th and 20th centuries, with the rise of the mass media, we were in the realm of broadcasting. We could consume information in private or semi-public space, but it was difficult to produce content and impossible on the go. At the end of the 20th century, with the emergence of post-mass media functions, the relationship between mobility, place, and media changed. We face a new mobility

that brings together physical and virtual mobilities and allows the rise of new forms of places as a result of the relationship between informational territories and the territories that constitute them. This spatialization has grown from its post-mass media function through the creation of an informational territory and the overlap of physical and electronic spaces in temporary physical and informational mobilities.

At the beginning of the 21st century, locative media and bottom-up processes are reinforcing the hybridization of physical space and cyberspace, bringing a new sense of place and community. These processes are bound to the real world and, far from an absolute deterritorialization, they create new forms of territorialization through informational control (the capacity to produce and consume information while mobile). So the thesis of dematerialization, the end of places and, as a consequence, the end of community, seems to be unfounded. We must think about flows, events, and augmented reality, rather than fixed places, rooted communities, and deterritorialization in cyberspace with the replacement of the "real" with the "virtual".

Locative media projects produce experiences that create informational dynamics and events that are embedded in physical objects and locations. Mobile information technologies, post-mass media functions and informational territories are creating new forms of territorialization, new spatialization processes, new senses of places and new ways to reinforce real communities, as well as collaborative and autonomous productions of content. But we are just beginning and everything is potential. Only a political view can reinforce these perspectives.

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Artigo recebido em julho de 2008
e aprovado em agosto de 2008.



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