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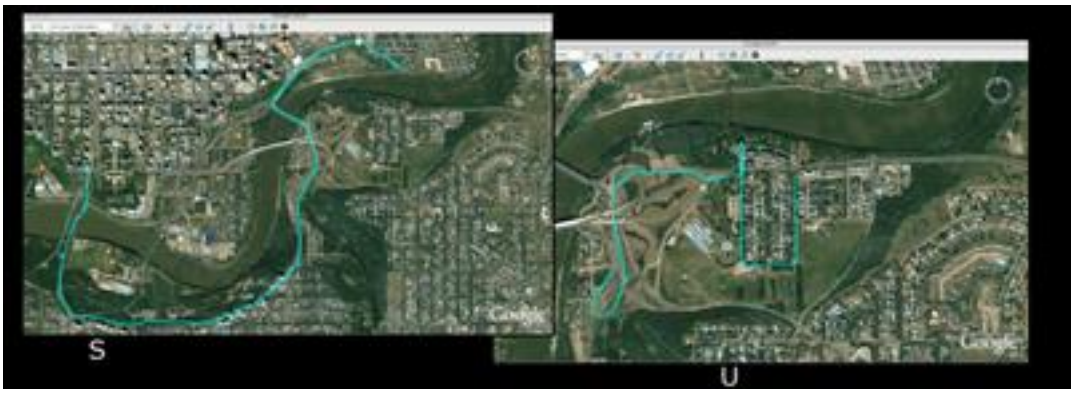
"The persistent cultural obsession of Canadian literature, according to Survival in 1972, was survival. In actual life, and in both the anglophone and francophone sectors, this concern was often enough a factor of the weather, as when the ice storm cuts off the electrical power" (Atwood. 2004, p. 8)

Locative Art

SUR-VIV-ALL in Edmonton is a GPS writing project in which traces are made on Google Maps using a GPS logging device to track an itinerary. Here we present a new class of art – locative art — which mobilizes locative media and articulates the relationship between it and everyday life and embodiments in place. These terms will be explored in more detail below.



Please click on the image for an enlarged view.

Survivall – "S" "U" and part of the route between.

Image of interactive overlay online on Google Maps via Quikmaps

The idea for such a digital, urban parcours, came while reading Margaret Atwood's book, *Survival* at the same time as doing research on locative media. In the book, Atwood argues that "survival" is a recurrent pattern in Canadian literature imaginary, both in prose and poetry. Written in the 1970s, 'Survival' is the literary conceit, or extended metaphor, which not only Atwood but also Northrop Frye (1971) and others argued to characterize a certain Canadian spirit:

The central symbol for Canada – and this is based on numerous instances of its occurrence in both English and French Canadian literature – is undoubtedly Survival, la Survivance" (Atwood, 2004, p. 41)

In retrospect we can see this as an ideology privileging a central Canadian, Anglophone and urban vision of Canada as an essentially northern, wilderness (Shields, 1991). This identity is more and more at odds with the transnational ties of an increasing percentage of its population and more social understandings of the country as essentially diverse

culturally while unified around a still-dominant consensus on the rule of law. Still, to encounter most parts of the country in winter always poses a challenge of survival, of enduring the cold climate, and to organize everyday life under the stress of harsh weather.

…a survival can be a vestige of a vanished order which has managed to persist after its time is past, like a primitive reptile (…). But the main idea is the first one: hanging on, staying alive. ….Let us suppose (…) that Canada as a whole is a victim, or an 'oppressed minority', or 'exploited. (Atwood, 2004, p. 41, 45)

Drawing on Google Maps

We "wrote" Edmonton in 40 km with a GPS tracker, and mapped hotspots along the way. What we were looking for was a way to get closer to the city, to understand and feel their places, their dynamics.[2] Edmonton is a flat Prairie landscape, cut by the wide valley of the sinuous North Saskatchewan River which runs from the Rockies to Hudson's Bay. Originally a fur-trading post linked to European markets by the river, it is now a Provincial capital, a University centre, transportation hub and a base for Athabaska tar sands operations in the north of the province.

In our collaborative work, Atwood's word "SURVIVAL" has been changed to "SUR-VIV-ALL," in a gesture to the different meanings of the languages of the team: English and French, the official languages of Canada, and Portuguese. In French we can see or inferred "SUR – VIV (R) E / VIE …", something like an excess or a lack of life. In Portuguese, "VIVA", claiming to live, an imperative. In English "survival", has its original meaning, plus "ALL", that claims the social dimension, the public, and the

community. What is at stake here is the imagination of the city, the relationship with extreme temperatures, the use of cars as standard displacement, the empty spaces, the invisibility of electronic processes (written by the GPS is invisible as well Wi-Fi hotspots) and the physical and social structures of public and private space. We have photos, videos that attempt to capture these relationships, but with a thread that links with the outside world, nature. The "Waypoints" on the map show multimedia content, as well as open or closed personal wi-fi hotspots (accessible from the street).

Our interest in this 'locative' art form is to reflect on the relationship between what Andre Lemos has refered to as 'virtual territories' produced in the intersection of physical space and computing and communication networks. 'Writing' on a web-based representation of this physical space, such as presented by Google maps, and encountering private wi-fi in suburbia and even empty urban areas, illustrate also the intersection of public and private, actual and ideal environments – the material, the virtual and the abstract. While Google maps represent neighbourhoods from on high, our videos show not only suburbia in winter, but the sites of hotspots, both closed and open, which were sought out and detected at the beginning and end of each 'letter'. The gaze of the camera is an apt visual metaphor for the virtual territory of the wifi hotspot – a territory which is 'virtual' precisely in the definition of Proust as, 'real but not material, ideal but not abstract' (2003, 6, p. 264). C.S. Peirce defined it as 'something, not an X, which has the efficiency (virtus) of an X' (Peirce, [1902] 1958, p. 6, 372). Not only are these territories virtual but communication itself is also a virtuality – an intangible but nonetheless real thing.

Informational Territory and Other Virtualities

All 'territory' owes something to the processes of the virtual. While it may be physical enough, often what assembles an area giving it the status of an identifiable 'thing', a given region or a place, is not a set of simple markers or boundaries drawn around a topographical area but both a tangible and much less tangible consistency which is imputed to and lends a certain character to the enclosed area. This region or place is not just and 'inside' but is deemed to be a thing in its own right. Yet, when challenged there is often no 'thing' that can be presented as a positivistic and nominalistic object. The best we can do is representative objects, which in some way capture this virtuality – the character of a place.

All territory is made of information; it is not mere data but formed, ordered and willed animal territory. It is thus plausible to argue that the information society produces new territories. Such informational[3] territories can also be understood technically as areas where informational flow in the intersection between cyberspace and urban space is digitally controlled. Here users can either control inputs and outputs of information and data. For informational territory I understand the area of control of and interactivity with digital information flow intersecting with a physical area. In using the term informational territory. We want to differentiate digital information layers from other forms of 'information'. Wireless networks, sensors and mobile technologies open up new uses of place by creating digital information layers. The informational territory is not cyberspace, but territory in a place formed by the relationship between the physical dimensions of territorialities and the new electronic flows, creating a new form of territorialization. Informational territory is of historic significance because it creates a new function of place, extending the heterotopy of meaning attached to locations. In

effect place, as a result of territorialization (geographic delimitation, laws, and regulations) gains not only a new layer information but is augmented by a new territory created by electronic networks and mobile devices.

A given place becomes more complex because pre-existing territories are now drawn into a relation with other territorialities (laws, regulations, subjectivities, cultures, and politics). We can examine these informational territories empirically via the use of public spaces equipped with the new infrastructure of wireless networks and devices or via ethnographic research showing the relationship of users with a place before and after the formation of informational territories.

It's 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 which 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 (p. 227).

Others speak in terms of a "bubble" (Beslay & Hakala, 2005) or a "cloud" (Vander Wal, in Roush 2006). These images picture the "form" of informational territory. They are important because, like 'metaphors we live by', visualizations tend to have a 'framing'

effect on the development of technologies. However, both “digital bubble” and “digital cloud” do not offer the ontological dimension of place; they don’t inform us 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 suggests thinking about control and power that the image of the bubble or cloud doesn’t reveal. A place is always controlled (by law, ethics, moral, rules); it is always consists of territorializations in tension with deterritorialization (new laws, changes in ethics or morals, etc). The notion of informational territory allows us to see new, surveillant processes of control (information), adding more complexity to places.

Please click on the image for an enlarged view.

Survivall – Letters “R” and “V”.

Image of interactive overlay online on Google Maps via Quikmaps

Locative Media

Here, ‘locative’ derives its meaning from the gramatical function of indicating location semiotically via language. As Lemos argues, ‘locative media’ such as GPS-enabled mobile and ubiquitous computing relates information and users’ social action to geographical place (see also Galloway, 2008).

Locative media is a combination of location-based technologies and location-based services (Benford, 2003, 2005; Chang & Goodman, 2006; McCullough, 2006; Barkhuus et al., 2005; Hightower, 2001; Rao & 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 between devices. Locative media could be used for locating, mapping, access to services and information, art, or games (Benford at 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, emergence 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 & Hammad, 2004; Lonthoff & Ortner, 2007).

Locative media are ubiquitous and pervasive. The term "ubiquitous computing" was proposed by Mark Weiser 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; 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."

Maps

Canadian writers as a whole do not trust Nature, they are always suspecting sone dirty trick. An often-encountered sentiment is that Nature has betrayed expectation, it was supposed to be different. (Atwood, 2004, p. 59)

The use of maps and mappings process with locative media is unprecedented. With new systems like GIS and GPS or free software and web systems like Google Maps or Google Earth, mapping is new practice of place. Maybe we're realizing the idea of Borges in "Del Rigor en la Ciencia". In this text with one paragraph, Borges imagines a place where the map of an empire has the dimension of the territory. The map is the territory and mapping a new practice of perception of the cities (Abrams & Peter, 2006; Dorling &

Fairbairn, 1997; Harmon, 2004: Wilford, 2000): send a SMS to Google to know where the X café is; to log on a system with my cell phone to know where I am; access online systems to know where is the Y cinema and the schedule of a film... These systems enhance and may even permit my mobility in the city. They create an "augmented reality", i.e. informational layers that interconnect physical and electronic information (see Galloway, 2008).

Please click on the image for an enlarged view.

Survivall – "S" "U" and part of the route between.

Image of interactive overlay online on Google Maps via Quikmaps

Mapping my movement on the streets is a manner of individually exerting control over the space; it is territorialization. It is not only a response to or fear of dispossession, getting lost. The use of GPS and other devices for location and location-based services

put emphasis on control and domination over a territory. These new locative devices allow greater control over an area rather than raise new possibilities of loss. 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 planner and designers regard the experience of being lost or disoriented as the urban equivalent of a fatal disease" (Abrams & Hall, 2006, p. 14). Controlling or losing control, locative media, by one way or another, gives new functions to places.

The tactical use of maps (psycho geography) starts with the surrealist, Dadaists and situationists in the 50's and 60's, and reinforced by Michel de Certeau's "rhetoric of walking". With popular electronic mapping, the urban space is being used as a tactic for producing sense in daily life, dealing with the constraints of rationalization in urban modernity (Tonkiss, 2005). Mapping and geo-tagging with locative media can be seen as a way to combat the bureaucratization and the impersonality of urban space. One example is the uses of GPS for draw. GPS is originally a military technology for location, not a tool for artists' play in urban space. "Writing" and "drawing" invisible lines in space is not so much a phsyical change to a location, but 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 represented in the world and serve, always, to the constitutive powers (Rome, Spain and Portugal, British empire, American military power). Today with the Internet and locative media, mapping can be produced to represent people, community, and a more legitimate space and place that shows how people see and feel their environment. This allows a bottom-up process of representing the world, not mediated 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 & Fairbairn, 1997, p. 65; p. 71).

Locative media does this by enhancing the relationality between users', activities and geographical space. It extends and intervenes in the social spatialization by which certain activities are understood to be natural or appropriate in specific places while other actions are excluded. In the process of adding an informational layer to the human and communicational geographies of a city, for example, activities can be re-placed. The time geography of cities can also be rearranged, allowing activities and social interactions to become more mobile, to be located and 'caught up with' by users wishing to participate. It is thus a tool which enhances urban interaction and the participatory aspects of urban social phenomena. Flash mobs have been one political and artistic example and also deserve to be understood as an aspect of locative art (see Lemos, 2008).

If the relationship between the city and maps has always been historically close, today the power of locative media adds efficiency and functions while altering the form of this relation. Electronic maps and mapping with locative media change control and power over places – a new kind of social production of space. Maybe the map is becoming the territory, or put in another way, is producing new means of place-making or the social re-spatialization of public spaces of the city? This respatialization is fundamental to both

our 'Sur-viv-all' and to Atwood's 'Survival': remaking wilderness as virtually a home, however ambiguous or tenuous.

Our locative re-mapping is now, as is any cartography, a creative intervention in urban space, shaping both the physical city and the urban life experience. However, where technicians, governments and private companies once exclusively controlled mapping and the truth-acts that maps represent – 'this *is* the territory', 'here *be* dragons'... now control is dispersed into the virtual sphere of media itself. That is, if maps virtually were the territory, power was once manifest in and abstracted from the materiality of surveying, realized in the competent interpretation of the resulting maps and actualized by functionaries performing duties informed by cartographic information. While all this continues, maps become digitally manipulable. Locative media, on-site and embedded in users' ongoing activities, allow a broader set of social actors including individual users and community groups to engage in these operations (actualization-abstraction-performative realization) while also virtualizing place on-the-fly. Virtualization means that selected elements of places and selected aspects of place-making and confering meaning on places and regions is lifted out of the actual world of material sites into the ideal but still real environment of digital media. Place is now much more clearly part material, part virtual and part representational. Locative art is a meditation on this social and communicational reality. It illustrates the possibilities inherent in the new time-space regime of informational place, in new spatializations of the urban.

Notes

1. We would like to thank the Editors and anonymous reviewers for their comments as well as the University of Alberta Intermedia Research Studio and CnPQ, Brazil. Thank

you also to the online services to the public made available by Google and by Quikmaps. Perhaps we could say that they respectively form our canvas and paint.

2. Edmonton, Alberta (about 3 hours drive East into the Canadian prairies from the Rocky Mountains) metropolitan population just under 1 million) is not only Marshall McLuhan's birthplace, a city whose streetscapes feature in his texts, but it offers the existential challenge of a prairie winter which features in the video material. It was the base for the authors' research during a sabbatical year at Space and Culture and the Intermedia Research Studio at the University of Alberta.

3. By informational, we mean digital, electronic information flow (cf Castells, 1996).

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Biography

Mari Fiorelli is a graphic designer, web designer and multimedia artist, and is a professor in the Faculty of Communication at FIB (Centro Universitário da Bahia), Brazil. She was an artist in Residence at the Banff Centre in 2008.

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Rob Shields is Henry Marshall Tory Research Chair and Professor, Sociology/Art and Design, and a member of the Intermedia Research Studio at the University of Alberta. His books and edited works include *Places on the Margin*, *LifeStyle Shopping*, *Cultures of Internet*, *Lefebvre Love and Struggle*, *Building Tomorrow* (co-edited with Andre Manseau) and most recently, *What is a City?* (co-edited with Philip Steinberg). He is Co-Editor and founder of the peer refereed journal Space and Culture.