Mapping Politics
of
Locative Media

by

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Abstract:

This paper examines the political meanings embedded in the uses and practices of Locative Media (LM). Departing from the classical academic debate about the impact of technology on society, this essay reflects on *how things in themselves matter* due to the expressive values they signify. This political significance is explored in LM from which two opposing discourses are derived: one that celebrates the empowering potentials of LM, the other accusing it of being a technology of control and surveillance for imperial and commercial enterprises. Finally, after having defined LM as *political technology* in general terms, this study analyzes the tension between the liberating and oppressing narratives around LM and draws attention to the importance of acknowledging that there are political choices influencing the LM development process. This recognition is especially of concern since locative technology, like any other pervasive system, tends to disappear into the background once embedded in society.

Key Words:

Contents

1.   Introduction

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'You cannot learn, through common sense, *how things are*:
you can only discover *where they fit* into the existing scheme of things'[1]

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Since the term 'Locative Media' (LM) was introduced in 2003 by Karlis Kalnins this media of communication bound to a location has stimulated a countless number of projects that concentrate on the social interaction with place and technology. 'Location-dependent information' and 'context-awareness' form the premises of these projects, which mostly have a social, critical or personal background, and due to its close relation to the expansion of the mobile (phone) culture it has been suggested that in the near future LM will become a significant factor in everyday life. In this view, LM runs parallel to *pervasive computing* (or *ubiquitous computing*); the use of mobile technologies such as the Global Positioning System (GPS), laptop computers and mobile phones enable both LM and pervasive computing to operate. As a result two main discourses have been developed around LM practices: one that celebrates the awareness of the genealogy of a traced object (or person) embedded in the matrix of production, therefore making visible the 'networked society'; and another that accuses LM of the establishment of contemporary regimes of power, therefore encouraging the idea of 'societies of control' described by Gilles Deleuze (applied for commercial interests).

Within this context this essay is aimed to explore the collision between these two narratives around LM by focussing on the political meanings embedded in the uses and practices of LM technologies. More specifically, this article focuses on the following question: in which manner are LM projects loaded with political meanings and how do these politically loaded objects affect their networking relationships with humans? By exploring the political meanings of LM projects, which have contributed to the formation of the aforementioned opposing narratives, this essay calls attention to the importance of taking in consideration the political implications in the design and application of LM technologies: since both discourses can formalize pre-established ideologies of control and reconfigure alternative political meanings about locations.

In order to avoid a 'technological deterministic' view, in chapter two I will examine the way in which the debate about the impact of technology on society has been developed from Marshall McLuhan's notions of media, until more recent ideas about the relevance of artefacts loaded with political meanings. In other words this section considers how things in themselves 'matter' in a networked relationship with human agents and reflects on the politics embedded in 'things' within

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[1] Hall, Stuart, 1977. In Hebdige, Dick. *Subculture: the meaning of style*. London: Methuen, 1979: p. 11.

the cosmos of everyday life. Chapter three explores this idea of politically charged objects and technologies, focusing explicitly on LM projects. This section analyzes the empowering political potential of LM projects, which can encourage a much more democratic mapping of locations and stimulate a comprehensive context-awareness of environments, forms of production, human activities, etc. Finally chapter four, conversely, considers the criticisms on LM as a technology of surveillance and control with concealed forces. In addition this section will look at the tension between the liberating and oppressing narratives around LM, calling attention to the importance of political choices in the development of LM technologies, since they tend to get unnoticed in the realm of their application.

2.   Artefacts & Politics

'Technology is […] social before it is technical'[2]

In 1964 Marshall McLuhan aptly stated in 'The Medium is the Message' that 'we become what we behold': we shape our tools and then our tools shape us.[3] This is to say, as McLuhan clarifies, that 'the personal and social consequences of any medium […] result from the new scale that is introduced into our affairs by each extension of ourselves, or by any new technology'.[4] Any medium or technology, in McLuhan's view, therefore restructures human work and brings new patterns of human association; it 'shapes and controls the scale and form of human association and action'.[5] As exemplified with the railway, for example, McLuhan argued that it did not introduce movement or transportation into human society, 'but it accelerated and enlarged the scale of previous human functions, creating totally new kinds of cities and new kinds of work and leisure'.[6] Technology is in this view a 'powerful weapon' which effects 'alter sense ratios or patterns of perceptions steadily and without any resistance'.[7]

With these notions of media (or technology) McLuhan has been considered the canonical figure in media studies holding a 'technological deterministic' point of view - which tends to frame questions around technology in terms of technology's 'effects' on the culture – and in doing so opening up an academic debate about the significant role of technology (media) on society. Like-

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[2] Deleuze, Gilles. *Foucault*. London: Continuum, 2006: p. 34.
[3] McLuhan, Marshall. 'The Medium is the Message' from *Understanding Media: The Extensions of Man*. New York: McGraw Hill, 1964. In Wardrip-Fruin, Noah and Nick Montfort (Ed.). *The New Media Reader*. London: The MIT Press, 2003: p. 208.
[4] Ibidem, p. 203.
[5] Ibidem.
[6] Ibidem.
[7] Ibidem, p. 207.

minded theoreticians that followed and adapted McLuhan's ideas about the impact of technology on society are: Hans Magnus Enzensberger who in his "Constituents of a Theory of the Media", by holding a Marxist approach, considered the 'emancipatory use of the media' and attempted to develop a social strategy for media that could allow for 'social change', therefore taking media not as something neutral but with emancipatory possibilities[8]; and Jean Baudrillard who argues that media serve a 'social function' when focussing on what for him is the genuine potential of media: 'reciprocity' and 'interaction', therefore holding a position against the classical reduction of communication in a 'reversible' model of transmitter (producers) and receiver (consumers).[9]

This 'social force versus technological determination' debate took a central role for understanding new media when Raymond Williams in 1972 defended the importance of 'human agency'. Williams is in this view the classical counter figure, who in 'The Technology and the Society' attacked the technological deterministic account of technology's role in society by holding that 'all technologies have been developed and improved to help with known human practices or with foreseen and desired practices'.[10] So, for Williams, technologies - and specifically in his study television - cannot be separated from questions of 'practice', because they arise from human intention (or agency) that emerges within certain historical and cultural contexts. However, just as technological deterministic standpoints are mostly attacked for missing the importance of social needs, purposes and practices to which technology is central, 'cultural deterministic' views too are prone to overlook that *things themselves matter*, as Langdon Winner has argued. As Winner exemplifies, in 'Technologies as Forms of Life' with the case of television as something that matters:

> Those who wish to reassert freedom of choice in the matter sometimes observe, "You can always turn off your TV". In a trivial sense that is true. […] But given how central television has become to the content of everyday life, how it has become the accustomed topic of conversation in workplaces, schools, and other social gatherings, it is apparent that television is a phenomenon that, in the larger sense cannot be "turned off" at all.[11]

As Noah Wardrip-Fruin argues, 'Winner is no technological determinist', because in his notion of

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[8] Paraphrased from Enzensberger, Hans Magnus. 'Constituents of a Theory of the Media' from *New Left Review* (64) 13-36. Nov/Dec 1970. Reprinted in Enzensberger, Hans Magnus. *The Consciousness Industry*, trans. Stuart Hood. New York: Seabury Press, 1974. In Wardrip-Fruin, Noah and Nick Montfort (Ed.). *The New Media Reader*. London: The MIT Press, 2003: p. 261.

[9] Paraphrased from Baudrillard, Jean. 'Requiem for the Media'. From *For a Critique of the Political Economy of the Sign*, 164–184. Trans. Charles Levin. Saint Louis, Mo.: Telos Press, 1981. Reprinted in *Video Culture: A Critical Investigation*, ed. John Hanhardt. Rochester, N.Y.: Visual Studies Workshop Press. Dist. Layton, Utah: Peregrine Smith Books, 1986. In Wardrip-Fruin, Noah and Nick Montfort (Ed.). *The New Media Reader*. London: The MIT Press, 2003: p. 285-286.

[10] Williams, Raymond. *Television: Technology and Cultural Form*. London: Fontana, 1974: p. 129.

[11] Winner, Langdon. 'Technologies as Forms of Life'. In *The Whale and The Reactor: A Search for limits in an Age of High Technology*. Chicago: University of Chicago Press, 1986: p. 12.

'technologies as a form of life' he suggests that 'just as we cannot treat technologies as simply "invented" from thin air, altering the course of human life to fit their dictates, so we cannot cease our analysis at the point when a technology becomes widely distributed – when the social instigations seem played out'.[12] Once a technology is in place it operates as a life factor: it 'altered some of the fundamental terms of human life without appearing to do so'.[13] Technologies become in other words 'second nature':

> We do indeed "use" telephones, automobiles, electric lights and computers in the conventional sense of picking them up and putting them down. But our world soon becomes one in which telephony, automobility, electric lighting, and computing are *forms of life* in the most powerful sense: life would scarcely be thinkable without them.[14]

In this context Winner in his study calls attention to the 'political imagination' that confronts technologies as forms of life and contends that the study of politics in this territory, 'should be able to say something about the choices (implicit or explicit) made in the course of technological innovation'.[15] The most famous example that led Winner to state that 'technology is politically significant in its own right' in 'Do Artifacts Have Politics?' is the story of Robert Moses who, according to Winner, explicitly designed the freeway overpasses on Long Island to be too short to accommodate buses; therefore keeping low-income minority New Yorkers out of areas of recreation such as Jones Beach.[16] As Winner clarifies: 'automobile-owning whites of "upper" and "comfortable middle" classes […] would be free to use the parkways for recreation and commuting. Poor people and blacks, who normally used public transit, were kept off the roads because the twelve-foot tall buses could not handle the overpasses'.[17] In this context Winner introduced what he called 'the theory of technological politics' which 'draws attention to the momentum of large-scale sociotechnical systems, to the response of modern societies to certain technological imperatives, and to the ways human ends are powerfully transformed as they are adapted to technical means'.[18] In addition Winner suggests that, as in the case of Moses' overpasses, technological innovations should be treated similar to 'legislative acts or political foundings that establish a framework for public order that will endure over many generations'.[19] From this perspective fundamental choices about a certain

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[12] Wardrip-Fruin, Noah. 'Introduction: The Technology and the Society'. In Wardrip-Fruin, Noah and Nick Montfort (Ed.). *The New Media Reader*. London: The MIT Press, 2003: p. 289.
[13] Winner. 'Technologies as Forms of Life': p. 9.
[14] Ibidem, p. 11 (My emphasis, AOL).
[15] Ibidem, p. 18.
[16] Winner, Langdon. 'Do Artifacts Have Politics?' *Daedalus*, Vol. 109, No. 1 (Winter 1980): p. 2.
[17] Ibidem, p. 3.
[18] Ibidem, p. 2.
[19] Ibidem, p. 5.

technological innovation can in Winner's views be considered as important as the adoption of a 'new law'.

Even though Winner has been criticized for using Moses' *low bridges* as the only 'strong or design-version' which supports his argument about the power of artefacts to fixate social relationships as well as of failing to consider other versions of Moses' story – since, as Bernward Joerges argues, 'in the USA, trucks, buses and other commercial vehicles were prohibited on all parkways' and therefore Moses did nothing different on Long Island[20] – Winner's example has further influenced and been appropriated by other authors who similarly defend the power of things. One important figure in this position is Bruno Latour who, like Winner, points to a kind of discrimination *via* things in his argument about the automatic door closer that according to him '*discriminate[s]* against very little and very old persons […] they discriminate against furniture removers and in general everyone with packages, which usually means, in our late capitalist society, working or lower-middle class employees'.[21] However, in contrast to Winner, Latour assumes a high degree of contingency (an argument that permits him to dissolve Winner's 'causal nexus', as Joerges asserts).[22] Artefacts are somehow political in Latour's views, but not from a sense of a 'definitive political order'. In contrast, the power of things depends on how they are ''systematically' networked with other things […] in their associations; it is the product of the way they are put together and distributed'.[23] Therefore by looking at the power of things closely through a contingency approach, Joerges argues, things such as Moses' overpasses seem to *not* control that much, but to have effects *via* their 'expressive values'. As Joerges continues: 'things induce nothing, but indicate something […] built spaces are considered as media which tell something to those capable of reading and listening'.[24] This implies that things, just like texts or words, may be read differently anew all the time: they can 'serve as media of mediation, negotiation and translation between reciprocal expectations and requirements of many people and organizations'.[25] For that reason what is at stake is a 'politics of interpretation' in which things in the same way as 'particular social subjects are structurally positioned in relation to each other'.[26]

Ien Ang has exemplified this point in her study of the structure of domestic power relations

[20] Joerges, Bernward. 'Do Politics Have Artefacts?' *Social Studies of Science*, 29; 411 (1999): p. 419.
[21] Johnson, Jim *aka* Bruno Latour. 'Mixing Humans and Non-Humans Together: The Sociology of a Door-Closer.' *Social Problems*, Vol. 35, No. 3 (June 1988): p. 302.
[22] Joerges. 'Do Politics Have Artefacts?': p. 414.
[23] Ibidem.
[24] Ibidem, p. 423.
[25] Ibidem, p. 424.
[26] Ang, Ien. 'On the Politics of Empirical Audiences Studies.' *Living Room Wars: Rethinking Media Audiences for a Postmodern World*. London: Routledge, 1996: p. 46 and 50.

around television within nuclear family arrangements, in which home has come to signify for husbands a site of leisure and for wives a site of work. Consequently, television 'as a domestic cultural form [and as a thing in itself] tends to be invested with different meanings for men and women'.[27] Because the subjects are positioned in different ways toward the set, they engage, as Ang continues, 'in a continuing struggle over programme choice and programme interpretation, style of viewing and textual pleasure: […] if television is an 'ideological apparatus' […] then this is not so much because its texts transmit certain 'messages', but because it is a cultural form through which those constraints are negotiated and those possibilities take shape'.[28] In this view 'politics' fit into 'the building of the cosmos in which everyone lives' and can be seen as what 'qualifies a *type of situation*'.[29] Taking a pragmatic position Latour proposes to focus on the 'objects of concern' and then, so as to handle them, '[to] produce the instruments and equipment necessary to grasp the questions they have raised and in which we are hopelessly entangled'.[30] Herewith lies, according to Latour, the great advance for science studies, if, after having shaken the explanatory power of the 'social', 'they could also secularize politics by bringing into the foreground the 'public thing''.[31] That is to say, to regain the political relevance of things before 'the camel of political domination pass[es] through', as Winner would suggest.[32] In this context what follows is an examination of the political relevance extracted from Locative Media practices as they increasingly are integrated within the 'cosmos' of our everyday lives.

3.   Empowering Locative Media

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'Maps have a "ferocious power … to speak for themselves"'[33]

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In 2006, Julian Bleecker wrote in 'Why Things Matter' how a 'nascent conceptual framework' evolved by interconnecting physical objects with informatics capabilities: *The Internet of Things*, where 'things' are seen as active 'participants […] facilitating and contributing to networks of social exchange and discourse, and rearranging the rules of occupancy and patterns of mobility within the

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[27] For example, wives interviewed in the empirical study of David Morley's *Family Television* (1986) tended to watch television in a 'distracted mode', while husbands demonstrated a preference for viewing attentively, in silence. As Ang argues these modes of watching television have nothing to do with *essential* gender differences, but 'is a result of a complex of cultural and social arrangements'. If 'men can watch television in a concentrated manner', it is 'because they control the conditions to do so'. Ang. 'On the Politics of Empirical Audiences Studies': p. 50.

[28] Ibidem, p. 50 and 51.

[29] Latour, Bruno. 'Turning Around Politics: A Note on Gerard de Vries' Paper' *Social Studies of Science*, 37: 811 (2007): p. 814.

[30] Ibidem.

[31] Ibidem, p. 819.

[32] Winner, Langdon. 'Upon Opening the Black Box and Finding it Empty: Social Constructivism and the Philosophy of Technology.' *Science, Technology, & Human Values*, 18 (1993). Paraphrased by Latour. 'Turning Around Politics': p. 812.

[33] Wood, Denis and John Fels. *The Power of Maps*. London: Routledge, 1993: p. 25. Paraphrased by MacEachren, Alan M.. *How Maps Work: Representation, Visualization and Design*. New York: The Guilford Press, 1995: p. 340.

physical world'.[34] Bleecker illustrates his point about the 'active role of things' by revealing the potentialities of *blogjects* (objects that blog) to become 'socially relevant actors' with the *The Pigeon Blog* project, led by Beatriz da Costa.[35] In this project a flock of pigeons are equipped with some telematics to communicate on Internet wirelessly, a GPS device for tracing where it's been flying, and an environmental sensor that records the levels of toxins and pollutants in the air through which they fly. Bleecker concludes that within this Internet of Things a paradigm shift in approaching objects (once seen as passive) can take place when, by tracing them (as a Locative Media project), important social (and I would add *political*) discussions about the quality of a certain environment (as in the case of the Pigeon that blogs) can be generated. As he puts: 'whereas once the pigeon was an urban varmint whose value as a participant in the larger social collective was practically nil or worse, the Pigeon that Blogs now attains first-class citizen status: […] a participant in life and death discussions about the state of the micro-local environment'.[36]

In the same way Marc Tuters and Kazys Varnelis suggest that LM projects such as *Milk* carried out by Ieva Auzina and Esther Polak[37] – which uses GPS trace routes to map the path of milk from 'its origins in the udder of a cow in rural Latvia to a cheese vendor in the Netherlands' – provide a 'powerful vision' to more fully understand how products are 'commodified and distributed through the actions of global trade'.[38] In other words, projects like *Milk* make 'visible the networked society', and in doing so they create what Tuters and Varnelis, based on Jean-Jacques Rousseau, express as: 'an awareness of the genealogy of an object as it is embedded in the matrix of its production'.[39] Recapitulating Rousseau's *Émile* Tuters and Varnelis argue that by applying the strategies of LM (illustrated with *Milk*), the ideal education of a child that Rousseau had in mind can be recreated, since they can stimulate in him *philosophical* thoughts about the origins and stages of things (like milk products) before they get on the table:

> Nothing has so far succeeded in corrupting his healthy reason; what will he think of luxury when he finds that every quarter of the globe has been ransacked, that some 2,000,000 men have laboured for years, that many lives have perhaps been sacrificed,

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[34] Bleecker, Julian. 'A Manifesto for Networked Objects - Cohabiting with Pigeons, Arphids and Aibos in the Internet of Things.' Unpublished manuscript (2006): p. 2.
<http://research.techkwondo.com/files/WhyThingsMatter.pdf>
[35] Costa, Beatriz da, with Cina Hazegh and Kevin Ponto. 'PigeonBlog' (2006).
<http://www.pigeonblog.mapyourcity.net/index.php>
[36]Bleecker. 'A Manifesto for Networked Objects': p. 5.
[37] Auzine, Ieva and Esther Polak. 'MILK' (2004).
<http://www.milkproject.net/>
[38] Tuters, Marc and Kazys Varnelis. 'Beyond Locative Media: Giving Shape to the Internet of Things.' *Leonardo*, Vol. 39, No. 4 (2006): p. 362. Also available at:
<http://networkedpublics.org/locative_media/beyond_locative_media>
[39] Ibidem.

and all to furnish him with fine clothes to be worn at midday and laid by in the wardrobe at night.[40]

'Geotagging' objects (that is to say, having them tell us their stories rather than people doing this for them) therefore makes us aware of precisely 'the scale of built things and their relationship to each other'.[41] They strive, as Tuters and Varnelis continue, at least rhetorically, 'to reach a mass audience by attempting to engage consumer technologies, and redirect their power'.[42] By showing in a map a borders free Europe and the movement of cheese (which, like the pigeon that blogs, can be considered as the 'first project participant or subject') *Milk* project transforms, as Anne Galloway and Matthew Ward argue, 'the political boundaries of transnational commerce into micro-level personal interaction, both humanizing individual workers and redrawing national identities'.[43] In addition, Chad Vollrath has noted the political dimension of *Milk* by deciphering a 'political statement' in the map of the project, which for him serves as a canvas where 'a politics is articulated':

> [A] critique of the exploitation of the small farmer in the newly formed EU; a more broadly conceived macrobiotic or local-organic politics formulated against an inherently exploitative (of land, animals, people) international agro-business; or an even more broadly conceived commentary on globalization's supposed erasure of cultural specificity. In other words, the means with which the map was constructed fall into the background while the political concerns placed onto the map come to represent the metadiscursive purpose which the map serves.[44]

All in all as we have discussed in the last chapter, the politics abstracted from these LM projects are not inherently found in the things themselves (in a kind of 'definitive political order'), but in the 'expressive values' they carry with them, that when networked with other things and people stimulate a 'politics of interpretation'.[45] If things are like words (like media), inducing nothing, but rather 'indicating something' (which may be read differently anew all the time, as Joerges holds), then LM, in its positive discourse, serves *par excellence* to open social spaces and to empower communities, by means of its decentralized value that allows personal (and therefore, more democratic) maps to be

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[40] Rousseau, Jean-Jacques. *Émile*. New York: Dutton, 1974: p. 127. Cited by Tuters. 'Beyond Locative Media': p. 362.
[41] Pope, Simon. 'The Shape of Locative Media.' *Mute Magazine,* Issue 29 (February 9, 2005). Cited by Galloway, Anne. 'A Brief History of the Future of Urban Computing and Locative Media.' Diss. Carleton University, Ottawa, Ontario, 2008: p. 193.
[42] Tuters. 'Beyond Locative Media': p. 362.
[43] Galloway, Anne and Matthew Ward. 'Locative Media as Socialising and Spatialising Practices: Learning from Archaeology (DRAFT)'. Forthcoming *LeonardoElectronic Almanac*, MIT Press (2005): p. 6. Also available at:
<http://www.purselipsquarejaw.org/papers/galloway_ward_draft.pdf>
[44] Vollrath, Chad. 'Seeing What's Important: Mapping Strategies in Locative Media.' Paper presented at the annual meeting of the *NCA 93rd Annual Convention*, TBA, Chicago, Illinois, (November 15, 2007): p. 10.
[45] Tuters and Varnelis illustrate this point when they state: 'Even MILK's project is not about milk, but rather about the people involved in the production and distribution of milk as it transforms from Latvian biological fluid to Dutch product'. Tuters. 'Beyond Locative Media': p. 362.

drawn: 'allowing private narratives to become public and subject to reinterpretation'.[46] Since maps are *selective* and *conventional* – 'determined not simply by what is in the environment but also by the human agent that produced it'[47] – they are never innocent: as omission of elements from a map can signify subjugation, overabundance can signify domination.[48] In this view, maps – which are traditionally associated with territorial control and with the propagation of a particular doctrine, usually subtlety and made by the state[49] - *exert* power, and therefore the creation of 'alternative views' by means of LM technologies signifies the creation of 'alternative political meanings'.

Some LM projects that explicitly seek 'alternative' accounts, by making visible all the hidden stories of a place, are: The German-based *Yellow Arrow* project[50], which sets out to add depth to our world by using yellow arrow stickers pointing to sites and registering specific participant codes and thoughts on the place to which they point – 'that could be in prose, video or audio format'[51]; *Urban Tapestries* projects[52] that - using tools such as the Feral Robot (which automatically senses and posts pollution data) alongside people posting stories, thoughts and experiences - are aimed 'to build up an experiential spatial database which can be tapped into on the move via mobile phones'[53]; *Media Portrait of the Liberties* (MPL) project[54], that was designed for location-aware mobile narratives for a neighbourhood in Dublin known as 'the Liberties', combines mobile wireless technology and the framework of locative media to construct a system that 'allows its audience to vividly experience a community's public spaces through the stories, anecdotes and memories of its local residents' in order to enrich the social history of the site[55]; and so on. These projects demonstrate not only how 'cities are positioned as surfaces on which we can inscribe meaning, and which ultimately perform as

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[46] Galloway. 'Locative Media as Socialising and Spatialising Practices': p. 6 (see footnote 43).

[47] Turnbull, David. *Maps are Territories: Science is an Atlas*. Chicago: The University of Chicago Press, 1993: p. 5.

[48] Paraphrased from MacEachren, Alan M..*How Maps Work: Representation, Visualization and Design*. New York: The Guilford Press, 1995: p. 347.

[49] Paraphrased from Dorling, Daniel and David Fairbairn. *Mapping: Ways of Representing the World*. Harlow, UK: Addison-Wesly Longman, 1997: p. 137.

[50] Allen, Christopher, e.a. 'Yellow Arrow' (2004).
<http://yellowarrow.net/v3/index.php>

[51] As Mike Crang and Stephen Graham describe: 'Anyone dialling in the code via phone or Web can call up this material'. Crang, Mike and Stephen Graham. 'SENTIENT CITIES Ambient Intelligence and the Politics of Urban Space.' *Information, Communication & Society*, 10: 6 (December 2007): p. 808.

[52] 'Urban Tapestries' (2002-2008).
<http://research.urbantapestries.net/>

[53] As Crang and Graham further explain: the experience at street level and the sense of 'bodily motion' while moving through and between these sites are produced by 'a range of additional supporting information of both interest and use […] available and passed to you on a hand-held screen'. Crang. 'SENTIENT CITIES': p 807.

[54] Nisi, Valentina. 'Media Portrait of Liberties' (2005).
<http://www.valentinanisi.com/liberties.html>

[55] 'The stories are delivered to the audience on location-aware PDAs [personal digital assistants], and each story can only be viewed when an audience member is situated in the physical place where the story is set'. According to the designers, 'the objective of the MPL is to provide viewers with a nuanced and evocative sense of place as they walk the streets of this striking neighborhood'. Nisi, Valentine, e.a. 'Inner City Locative Media: Design and Experience of a Location-Aware Mobile Narrative for the Dublin Liberties Neighborhood.' *Intelligent Agent*, Vol. 6, No. 2 (August 2006): p. 1. Also available at:
<http://www.intelligentagent.com/archive/Vol6_No2_community_domain_nisi_etal.htm>

collective memory', as Galloway and Ward argue[56], but also how LM projects in general tend to embrace the physical location as an 'open' map with 'multiple entrances', in Deleuzian terms:

> [C]onnectable in all its dimensions, and capable of being dismantled; it is reversible, and susceptible to constant modification. It can be torn, reversed, adapted to montages of every kind, taken in hand by an individual, a group or a social formation. It can be drawn on a wall, conceived of as a work of art, constructed as a political action or as a meditation.[57]

Like the psychogeographic concept *dérive*, developed by the 'Situationist International'[58], LM projects encourage a kind of 'meditative walking practice' through the urban landscape with the purpose to 'get lost' in order to break with ingrained patterns of routine: revealing 'the landscape as a source of endless possibility in which a multitude of paths open for remapping the city'.[59] In this sense, close to this 'political tradition of urban society' derived from the dérive, LM has the quality 'to bring the local, hidden, repressed and silent to the surface'.[60] A quality that extends, in its *meditative* sense, to experience familiar places from an alternative sensorial perspective - such as in *Sensory Deprivation Map* project[61] where participants are 'deprived of sight and hearing and asked to roam the city in order to create a map based on other senses' (resulting in a map 'based on how fresh the air is or how windy certain areas are')[62], and the more actual *Sun Run Sun* project[63] which experiments with drifting by using electronic sounds as the primary vehicle for exploring 'open data worlds'.[64] But LM qualities also extend to *the persuasion to human action* when a certain location is remapped in more democratic manners.

In 'Aspen the Verb' Michael Naimark recaps, for example, the work of UC Berkeley Geography Professor Bernard Nietschmann. After having worked eleven years on the Caribbean coast of Nicaragua with the Miskito, Sumo, and Rama Indians - holding an 'aggressive pro-indigenous stance' - Nietschmann had outlined a different paradigm of 'making maps instead of

[56] Galloway. 'Locative Media as Socialising and Spatialising Practices': p. 6 (see footnote 43).
[57] Deleuze, Gilles and Felix Guattari. *On the Line*. New York: Semiotext(e), 1983: p. 25-26.
[58] *Situationist International*. Nothingness.org. Last update: 3/14/01.
<http://www.nothingness.org/SI/>
[59] Tuters, Marc. 'The Locative Commons: Situating Location-Based Media in Urban Public Space.' Futuresonic.com (2004): p. 1. Available at:
<www.futuresonic.com/futuresonic/pdf/Locative_Commons.pdf>
[60] Tol, Roman. 'The Mobile City Conference: Architecture, Politics, Paranoia and Art.' (March 10, 2008): p. 8. Also available at:
<http://romantol.wordpress.com/2008/03/10/the-mobile-city-conference/>
[61] Nold, Christian. 'Sensory Deprivation Map' (May 2007 - ongoing).
<http://www.softhook.com/sensory.htm>
[62] Tol. 'The Mobile City Conference: p. 8.
[63] Harris, Yolande. 'Sun Run Sun' (19/11/2007 - 19/02/2008).
<http://sunrunsun.nimk.nl/index.php>
[64] The *Sun Run Sun* project, in which Satellite Sounders turn navigation data directly into sounds, allows us, according to Yolande Harris, 'to observe the potentials of our floating extended locations', and raises fundamental questions about 'what is it to navigate' and 'what is it to know I am here now'.
Harris, Yolande. 'Sun Run Sun: Sonic Navigations.' Sunrunsun.nimk.nl (11/2007 – 3/2008). <http://sunrunsun.nimk.nl/static.php?page=static071122-142059>

using guns' in order for Miskito people to re-gain control over their territory.[65] Using 35mm cameras and GPS technology the *Miskito Reef Mapping* project sought in the early 1990s 'to record the presence and location of heavily-armed Honduran lobster "pirates", Colombian drug traffickers, and Nicaraguan and U.S. industrial fishing vessels that operate illegally within traditional Miskito sea territory and the new Miskito Cays Protected Area'.[66] To defend their sea territory against these 'intrusions', Miskito communities decided first to demonstrate 'to the conservationists, the pirates, the central government, and the Nicaraguan army and navy' that the sea territory and its resources 'were indeed theirs'.[67] In order to re-map Miskito territories Nietschmann worked with Miskito teams using sail, scuba and satellites 'to map and inventory their reefs and waters in their language and in their traditional knowledge classifications'.[68] As Nietschmann explains:

> [M]iskito captains used GPS to locate the centers of the major territories. Next Miskito scuba divers swam the underwater reef edges towing a buoyed line which was followed by a mapping team with a GPS in an inflatable dinghy. GPS locations were taken and later down-loaded into a laptop computer to produce an outline of the reef. Miskito place names were recorded.[69]

As a direct result of the national and international recognition of indigenous people in (re)making their maps, the Nicaraguan government created a 4,000 square mile Miskito Coast Protected Area, under the control of the Miskito people. This project not only illustrates how indigenous territory can be reclaimed and defended by maps (rather than by guns[70]), but also how by using new (locative) technology – 'that is much less expensive and much more accurate than the old technology' – a 'transcendental power' can be produced.[71] The map, as Nietschmann holds, 'will have transcendental power because it can be easily translated by everyone everywhere; it 'transcends literacy; it is visually comprehensible' it can be a more powerful national symbol than a flag or an anthem'.[72] In other words, 'its creation reinforces group cohesion'[73], and – to retake the quotation at the beginning of

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[65] Naimark, Michael. 'Aspen the Verb: Musing on Heritage and Virtuality'. *Presence Journal*, special issue on Virtual Heritage. MIT Press, 15.3 (June 2006): p. 5.
<http://www.naimark.net/writing/aspen.html>
[66] Nietschmann, Bernard. 'Defending the Miskito Reefs with Maps and GPS: Mapping With Sail, Scuba and Satellite.' *Cultural Survival Quarterly*, Vol. 18, No. 4 (1995): p. 1.
[67] Ibidem.
[68] Ibidem.
[69] Ibidem, p: 4.
[70] Nietschmann recaps, for example, how 'guns' have been used to protect Miskito territories with the story of Sandy Bay fishermen. This crew attacked and killed seven Colombian drug traffickers, and shot at a Honduran lobster pirate boat, seized its cargo and sent the boat and its crew home with 'a don't return or else' message. As a result 'Nicaraguan government told the communities they did not have the right to confront either pirates or drug traffickers in Nicaraguan waters'. Ibidem, p. 3.
[71] Ibidem, p. 5.
[72] Ibidem, p. 6.
[73] Ibidem.

this chapter - its 'ferocious power' lies in the fact that it 'speak[s] for [itself]'.[74]

Even though the *Miskito Reef Mapping* project might not be categorised as 'Locative Media' (from an artistic, academic or commercial point of view), the resistive forces that it enacts against certain ideologies of domination, resemble mobile locative art such as the *Transborder Immigrant Tool* project[75]. A project that is aimed, as Sophie Le-Phat Ho describes, 'to reduce the number of deaths at the US/Mexico border by providing a device that migrants can use to locate resources, such as water caches and safety beacons, as well as situate themselves in the desert'.[76] With a phone that serves like a compass - vibrating in response to certain landmarks, such as water or highways - oppressed groups are, similarly to Miskito communities, empowered by using LM technologies. In this way, whether used deliberately to 'persuade human action' (as shown in the last two examples), implicitly to make a 'statement', or explicitly to produce a communal awareness bringing 'the local, hidden, repressed and silent to the surface', LM should be generally understood as a *political technology* in its own right. With the implication that its implementation for certain purposes or needs might require a political choice of application, since its power resides, alike maps, in 'either you will map or you will be mapped'.[77] In the next chapter I will examine some critiques on LM that have produced a negative discourse around it, and an observation about a contradictory logic (of freedom and control) that LM has generated.

4. Concealed Locative Forces & the Rise of a Contradictory Logic

'We recognize the things, but we do not know them'[78]

Since in 2000 Bill Clinton's administration lifted the encryption of GPS signals – allowing any user to openly use these technologies[79] -, location-aware or mobile art forms have been given attention in abundance at festivals and exhibitions of contemporary art and new media. As a result a positive, empowering discourse for a progressive political action has been developed (as we have seen in the last chapter), but also critical efforts that question the fluid and mobile metaphors that LM

[74] Wood. *The Power of Maps*: p. 25 (see footnote 33).
[75] Dominguez, Ricardo and Brett Stalbaum. 'Transborder Immigrants Tool: A Mexico/U.S. Border Disturbance Art Project' (2007- 2008). More information at:
<http://post.thing.net/node/1642>
[76] Le-Phat Ho, Sophie. 'Locative Media as War.' (June 2008). Available at:
<http://post.thing.net/node/2201>
[77] Nietschmann, Bernard. 'The Making of the Maya Atlas', in *Maya Atlas*. North Atlantic Books, Berkeley, CA (1997): p. 136-149. Cited in Naimark, Michael. 'Aspen the Verb: Musing on Heritage and Virtuality'. *Presence Journal*, special issue on Virtual Heritage. MIT Press, 15.3 (June 2006).
<http://www.naimark.net/writing/aspen.html>
[78] Deleuze, Gilles. *Proust et les signes*. 1964/1970. Translated from the original text: 'Nous reconnaissons les choses, nous ne les connaissons pas'.
[79] Except in those cases where unencrypted access is selectively denied as in Iraq during the last war.

technologies bring along. As Kevin Hamilton has signalled: 'many critics share a concern for how discourses of travel, exchange, and mobility tend to reinforce a stable [...] subject'.[80] Hamilton recaps that even Tuters and Varnelis dismiss, as 'nostalgics', any concern for LM's dependence on Cartesian space, and attacks the LM discourse of representation centred on the 'human subject': a subject 'whose capacities for mobility depend on the constrains of the public sphere'.[81] In his view, we see a world not of autonomous points transversing networks, but 'densely interdependent bodies based in specific places in a real, historical world'.[82] Hamilton concludes that: 'every mobility comes at the expense of another's lessened mobility'.[83] In this view even the empowering remapping practices of Miskito communities tend to fix subjectivities that can 'only be challenged by another map'[84] and imply that any claim to freedom through LM practices should be reconsidered: since 'mobility does not make one "free" – it makes one differently dependent'.[85]

Similar to this tendency of LM to follow a 'human centred' approach, Coco Fusco indicates how a preoccupation with mapping space often comes at the expense of remembering certain times, while 'undesirable histories fall away in the service of representing a desirable present'.[86] In addition, LM practices that attempt to reclaim the city, as a place of memories, habits, stories, traditions and recurrences make it hard to distinguish the city itself from the 'spectacularisation of cities', as Sean Cubitt argues. This tendency not only makes all the cities look similar, but 'the commercial imperative [...] gives each city its landmark architecture, its signature restaurant, its irreplaceable cultural institutions'.[87] And the same happens with the subject of an artwork, that once noticed by surveillance technologies, becomes spectacular: that is 'we ourselves [...] become images, and after images, code'.[88] Having a sense of constantly being somewhere on screen and at the same time inhabiting a wholly neutral space, that might be 'anywhere whatever': 'it is the spectacle of our own vanishing'.[89]

This critique resonates with the general accusation of LM as being the 'avant-garde of the

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[80] Hamilton, Kevin. 'Mobility as Freedom in Critical Art and New Media.' Unpublished essay (2006). Available at:
<http://www.kevinhamilton.org/project.php?id=122>
[81] Hamilton, for example, recaps this human centred approach of LM extracted from the following quotation by Tuters and Varnelis: 'locative media seems fundamentally tied to discourses of representation centered on a human subject, privileging the experience of the human in space (tracing) and time (annotative)'. Tuters. 'Beyond Locative Media: p. 362. Cited by Hamilton. 'Mobility as Freedom'.
[82] Hamilton. 'Mobility as Freedom'.
[83] Ibidem.
[84] Nietschmann. 'Defending the Miskito Reefs with Maps and GPS': p. 6 (see footnote 66).
[85] Hamilton. 'Mobility as Freedom'.
[86] Fusco, Coco. 'Questioning the Frame.' *In These Times* (December 16, 2004). Paraphrased by Hamilton. 'Mobility as Freedom'.
[87] Cubitt, Sean. 'Media art futures.' *Futures*, Vol. 39, Issue 10 (December 2007): p. 1153. This critique is similar to Andrea Zeffiro's, who, based on Mark Monmonier, states: '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'. Zeffiro, Andrea. 'The Persistence of Surveillance: The Panoptic Potential of Locative Media.' *Wi: Journal of the Mobile Digital Commons Network*, Vol.1 (2006): p. 5.
[88] Ibidem.
[89] Ibidem.

'society of control' as Andreas Broeckmann has condemned it, referring to Deleuze's description of the contemporary regime of power.[90] A domination, enhanced and reinforced through portable networked technologies, that are less evident, 'but far more pervasive and operate through codes and passwords'.[91] In this view location-aware technology, as Jordan Crandall has attacked, is seen as acquiring 'a position of mastery through an omniscient distribution of the gaze: a controlling gaze that is everywhere yet nowhere, and which acquires power solely because of this amorphousness'.[92] And its power is increasingly target to consumers, as well as used 'for statistical or security analysis by the State'.[93] Furthermore Drew Hemment has pointed out that:

> [T]he increasing centrality of surveillance systems to the commercial sector suggests a new role for surveillance, that of not controlling deviancy, crime or terrorism but of managing consumption, producing not docile subjects so much as better consumers, the imperative of efficiency applied not just within commercial enterprises themselves, but throughout the cultural domain.[94]

Parallel to the rise of coercive forms of State surveillance, and accompanying the proliferation of new surveillance technologies, from biometrics to RFID tags, Hemment argues that surveillance might become a cultural entity 'in its own right', and the locative capacity itself might be embraced and consumed like any other product.[95]

In this view, as a reaction to the critiques against the commercial surveillance of LM, authors like Tuters have argued that projects such as *MILK* present themselves as a kind 'of X-Ray device into the black box of consumer society'.[96] Hence, for Tuters LM has the potential to offer a new category for consumption that might be called 'awaretarianism'.[97] In addition, LM artists have also critically responded to governmental surveillance as in the case of the *Tracking Transience: The Orwell* project[98] of Hasan Elahi. After having erroneously been reported a terrorist by the FBI, Elahi voluntarily developed a network device, which opens up every aspect of his life to the public: a kind

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[90]Broeckmann, Andreas. 'Exhibiting Locative Media: CRUMB Discussion Postings.' Beryl Graham ed.. Cited by Tuters. 'Beyond Locative Media': p. 360 (see footnote 59).
[91] Hemment, Drew. 'Locative Dystopia.' Published on Nettime.org (January 2004). Also available at:
<http://www.drewhemment.com/2004/the_locative_dystopia.html>
[92] Crandall, Jordan. 'Operational Media', *CTHEORY*, Vol. 28, No.1-2, (2004): p. 3
[93] Crandall, Jordan. 'Operational Media'. Paraphrased by Byrne, Chris. 'Mobile Realism?' *Art Research Communication*. A-r-c.org.uk (January 12, 2005).
<http://www.a-r-c.org.uk/weblog/index.php?p=17>
[94] Hemment. 'Locative Dystopia'.
[95] Paraphrased from Hemment. 'Locative Dystopia'.
[96] Tuters, Marc. 'The Locative Utopia.' (2008). An earlier version of this text was published in *Art+Communication; Trans-Cultural Mapping*, by the RIXC Centre for New Media Culture in Latvia. Also available at:
<www.locative.myvelodrome.org/wp-content/uploads/2008/02/locative_utopia_tuters.pdf>
[97] This terms refers to the attempt to reach the consumer by offering him a new way to explore, through a variety of maps, information and a degree of awareness regarding the product's conditions of production instead of trying to reach him by campaigns that use traditional processes of reasoning and argumentation. Tuters. 'The Locative Utopia'.
[98] Alahi, Hasan. 'TrackingTransience' (2002 – ongoing).
<http://trackingtransience.net/>

of critique holding that within the current surveillance society the 'best way to protect your privacy is to give it away'.[99] However, as the criticisms against LM go on, the use of worldwide communication technologies – systems with strictly military origins – only enhance an 'Imperial infrastructure'.[100] As Brian Holmes points out:

> Perhaps the most interesting aspect of this satellite infrastructure is that in order for one's location to be pinpointed, the clock in each personal receiver has to be exactly synchronized with the atomic clocks in orbit. So you have an integration into imperial time. The computer-coded radio waves interpellate you in the sense of Althusser, they hail you with an electromagnetic "hey you!" When you use the locating device you respond to the call: you are interpellated into imperial ideology.[101]

In Holmes' views, LM raises the question of whether agency can ever really be asserted in a space where civilians constantly locate themselves within a matrix determined by military satellites. As he exemplifies with Esther Polak's *Real Time* project[102], in which pedestrians equipped with GPS sketch out the city plan of Amsterdam as record of their everyday itineraries: 'the individual's wavering life-line appears at once as testimony of human singularity, and proof of infallible performance by the satellite mapping system'.[103]

In this view, the integration of civil society into the military architecture of digital media accompanied with commercial imperatives has resulted in the development of a negative discourse around locative technologies in general. Moreover, this discourse has been intensified with the emergence of *pervasive* systems (Ambient Intelligence), which are increasingly embedded in society. For example, Rob van Kranenburg has described how buildings, cars, consumer products, and people become information spaces by transmitting all kinds of data through Radio Frequency Identification (RFID) tags, replacing the barcode. In his view, 'we are entering a land where the environment has become the interface' with the implication that 'it is no longer clear what is being mediated, and what mediates'.[104] According to Van Kranenburg, similar to electricity – which today has become invisible as a pervasive medium distributed around the world – an Ambient Intelligent

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[99] Alahi, Hasan cited in Thompson, Clive. 'The Visible Man: An FBI Target Puts His Whole Life Online' *Wired Magazine*. Wired.com, Issue 15.06 (May 2007).
<http://www.wired.com/techbiz/people/magazine/15-06/ps_transparency>
[100] Holmes, Brian. 'Drifting Through the Grid: Psychogeography and Imperial Infrastructure.' An initial version of this text was presented at the *RIXC* »Media Architecture« conference in Riga (May 16-17, 2003). Available at:
<http://www.springerin.at/dyn/heft_text.php?textid=1523&lang=en#top>
[101] Ibidem.
[102] Polak, Esther. 'Amsterdam RealTime', *Waag Society* (1/3/2002 – 1/12/2002).
<http://realtime.waag.org/>
[103] Holmes. 'Drifting Through the Grid' (see footnote 100).
[104] Kranenburg, Rob van. *The Internet of Things: A critique of Ambient Technology and the All-Seeing Network of RFID*. Amsterdam: Institute of Network Cultures, 2008: p. 12 and 13. Also available at:
<http://networkcultures.org/wpmu/portal/publications/network-notebooks/the-internet-of-things/>

system 'sets forth not only its own disappearance as success, but in doing so builds its own foundation as being 'natural', and inevitable'.[105] Therefore, the question that remains is to what extent these systems allow for human agency, since many of their applications will eventually come with a 'kill switch': such as mobiles reacting to the environment, shutting themselves off when they detect they are in a restaurant'.[106] Furthermore, if the environment is the interface, then, as van Kranenburg states, the consequences on the level of agency of citizens might be 'tremendous' when any changes occur in the 'background' of the system: since the disappearance of technology as technology results in the concealment of all keys (code, protocol, procedure) that drive it. This implies that citizens 'become helpless very soon, as they have no clue how to operate what is 'running in the background', let alone fix things if they go wrong. As such, Ambient intelligence presumes a totalizing, anti-democratic logic'.[107] In this view, Van Kranenburg concludes that in this 'Internet of Things' – where computers have disappeared as visible technology and humans have become 'designable and designerly information spaces' – a design decision inevitably 'has now become building *ethics* itself'.[108] This illustrates not only how *political concerns* can be derived from Van Kranenburg's analysis in relation to pervasive technology that, just as LM, in order to operate is based on control and surveillance, but also how locative technologies can be understood in terms of a contradictory logic of control and freedom.

In this context, Alexander Galloway has argued that in the architectures of the Internet (a medium which has academic and military origins as well) control, and not freedom, is what '*has existed from the beginning'*.[109] But this kind of what he called 'protocological control' has at the same time been based on openness, inclusion, universalism and flexibility. Technically speaking it is based on 'a *contradiction* between two opposing machines'.[110] That is to say: a 'dialectical tension', between

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[105] Ibidem, p. 23. This concern is similar to Winner's already discussed description of technologies as 'form of life': technologies become 'second nature' by the way they 'altered some of the fundamental terms of human life without appearing to do so'. Winner. 'Technologies as Forms of Life': p. 11 (see footnote 11).

[106] Ibidem, p. 16. In this context Van Kranenburg provides some interesting examples of kill switching such as in the case of *OnStar* that will soon enable the police to shut off one's engine remotely and Microsoft's 'Digital Manners Policies-enabled devices', which would accept broadcast 'orders', therefore limiting capabilities:

"'[…] Cell phones could be remotely set to vibrate mode in restaurants and concert halls, and be turned off on airplanes and in hospitals. Cameras could be prohibited from taking pictures in locker rooms and museums, and recording equipment could be disabled in theatres. Professors finally could prevent students from texting one another during class. This is really about media companies wanting to exert their control further over your electronics. They not only want to prevent you from surreptitiously recording movies and concerts, they want your new television to enforce good "manners" on your computer, and not allow it to record any programs. They want your iPod to politely refuse to copy music to a computer other than your own. They want to enforce their legislated definition of manners: to control what you do and when you do it, and to charge you repeatedly for the privilege whenever possible. "Digital Manners Policies" is a marketing term. Let's call this what it really is: Selective Device Jamming. It's not polite, it's dangerous. It won't make anyone more secure -- or more polite'". Schneier, Bruce *I've Seen the Future, and It Has a Kill Switch*, e-mail commentary, June 26, 2008. <http://www.wired.com/politics/security/commentary/securitymatters/2008/06/securitymatters_0626>
Cited by Van Kranenburg. *The Internet of Things*: p. 55.

[107] Ibidem, p. 23.

[108] Ibidem, p. 19 (My emphasis, AOL).

[109] Galloway, Alexander R.. *Protocol: How Control Exists after Decentralization*. Cambridge: The MIT Press. 2004: p 142.

[110] Ibidem, p. 8.

'one machine [that] radically distributes control into autonomous locales' (such as TCP/IP protocols, that give Internet the common image as an uncontrollable network), and the other 'focus[ing] control into rigidly defined hierarchies (such as DNS protocols which control information in a hierarchical inverted-tree structure).[111] Socially speaking, it gives to Internet users the ability 'to build a "warm, friendly" technological space through technical standardization, agreement, organized implementation, broad (sometimes universal) adoption and directed participation'.[112] In sum, protocol operates based on a contradictory logic, in which *standardization* has to be implemented in order to enable a *truly distributed* and *radical openness* of the Internet protocol's architecture. LM can also be understood within this contradictory logic, in both technical and social terms. It must deal with vertically-oriented power structures that operate through surveillance and repression (a hierarchical structure of control, regulated literally from the sky), but it also 'reverses, multiplies and diffracts the gaze by giving people the opportunity to take ownership over the tools and the data generated'[113] (it allows a distributed, horizontally-oriented power on the ground). As Hemment has observed:

> Locative media remains upon the same plane as new forms of pervasive surveillance,
> and this is a plane upon which emancipation and domination intertwine. It is not a
> simple question of emancipation _or_ domination, but of both at once.[114]

However, by reducing LM to this contradictory logic of control and freedom (where openness and flexibility are possible by means of standardization and control) one disregards that 'the relationship between technology and desire is highly mediated', as Wendy Chun argues.[115] In other words, '"people's desires" too are generated by the system'.[116] They are generated by the production of narratives or discourses about either liberating potentials *or* controlling forces of certain technologies. With this Chun emphasizes that, rather than explore the utopian (or dystopian) possibilities of a space in which anything is possible, we must refuse easy mythical assertions around technologies. In contrast, the revelation of these constructions represent in Chun's view 'the end of a cybernetic dream based on a technology that perpetuates master-and-slave relations, that reduces freedom to control, languages to programs and commands'.[117] In other words, Chun's general claim is that the

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[111] Ibidem. p. 9.
[112] Ibidem, p. 142.
[113] Hemment, Drew. 'Locative Dystopia 2' (2004).
<http://www.drewhemment.com/2004/locative_dystopia_2.html>
[114] Hemment. 'Locative Dystopia' (see footnote 91).
[115] Chun, Wendy Hui Kyong. Control and Freedom: Power and Paranoia in the Age of Fiber Optics. Cambridge: The MIT Press. 2006: p. 71.
[116] Ibidem,
[117] Ibidem, p. 297.

creation of *our machines and their languages* is in our hands, and this is the key to imagine and move toward a different future in which we can explore the democratic potential of communication technologies.

In this view it would be a serious mistake to construct one sociotechnical system (such as LM technology) after another in the blind faith that each will turn out to be politically benign or malignant. Instead, by understanding how positive and negative discourses about LM have been developed and reinforced - producing a contradictory logic in which LM potentialities oscillate – the fully inherent political implications of a certain LM project can be grasped from its origins. Implying that many political choices about the forms and limits of our 'regimes of instrumentality' must be enforced at the founding of each new technology. That is to say that, as Winner suggests: 'we must admit our responsibility for what we are making'[118], before it disappears in its hegemonic implementation.

5.   Conclusion

This essay focused on the way in which LM projects are loaded with political meanings and how these politically loaded objects affect networking relationships with humans. With the exploration of the political meanings of LM projects, which have contributed to the formation of two opposing narratives – one about empowerment and the other about control and surveillance from imperial and commercial enterprises -, the aim of this paper has been to raise awareness that one should take account of the fact that the design and application of LM can both be politically inspired and have political implications.

Chapter two delineated the development of the debate about the impact of technology on society. Departing from Marshall McLuhan's notions of media, until more recent ideas about the relevance of artefacts loaded with political meanings, this section has reflected on how 'things' in themselves 'matter'. They have, in other words, effects via their 'expressive values' in a networked relationship with human agents and other things. As a result it has been concluded that what is at stake is the 'politics of interpretation' embedded in things within the cosmos of everyday life. Furthermore, chapter three has explored this idea of politically charged objects and technologies, focusing explicitly on LM projects. This section has examined the empowering political potential of LM

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[118] Winner. 'Technologies as forms of life': p. 18 (see footnote 11).

projects, in a way they can instigate an awareness of the genealogy of an object as it is embedded in the matrix of its production, as well as implicitly make a 'political statement' or deliberately persuade to human action. In the way it provides an alternative view, by means of *re*mapping practices – which bring the local, hidden or repressed to the surface - it has been suggested that LM should generally be understood as a *political technology* in its own right.

In contrast, chapter four has looked at the criticisms of LM. Following from an analysis of accusations that attack LM as a 'human centred' approach that tends to 'fix' subjectivities, to more general claims that denounce LM as a technology of surveillance and control within imperial and commercial enterprises, this section has paralleled LM with *pervasive* computing; since both have the tendency to disappear as a visible technology. Finally this last section has considered the tension between the liberating and oppressing narratives around LM, by comparing its contradictory logic (of control and freedom) with Alexander Galloway's notion of protocol: where openness and flexibility are possible by means of standardization and control. However, since the relationship between technology and desire is highly mediated, this segment finished drawing attention to the importance of refusing easy mythical assertions around technologies as being benign or malignant. By grasping the political implications of LM projects, the aim has been to consider LM design, application, distribution and appropriation as (retroactive) political choices that should be faced and seized at the genesis of each new locative technology: before it becomes invisible whilst being distributed around the world as a pervasive medium.

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