

THE CULTURE OF MAPMAKING ON THE INTERNET

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Abstract

The paper presented here intends to be a theoretical contribution to the contemporary cartography studies that has been designed on the Internet. Based on a master research that seeks the cultural ruptures and continuities that new technologies of communication and information introduced in the way of making maps and in the representations resulted from it, this work will bring some early impressions about these recently changes. For this propose, was taken into consideration that the act of mapmaking is a process of world construction that arises from the techniques and knowledge predominant in each time, as Harley taught within his studies about the history of cartography. In the ongoing era the advent of these new mapping technologies developed in cyberspace has reconfigured the practices in mapmaking and became the tendency of applied technology in cartography. These softwares dispose a set of tools and devices that invites people with Internet access to construct maps in different ways and for different uses. *Google Maps*¹ has become the most popular web service of this technology segment, especially because of the developing of its *API*² (Application Programming Interface). This Interface is a simple software that allows users to add new tools and features to *Google Maps*, making possible the creation of new mapping applications. In this sense, the new technologies are giving space to the expression of a kind of cartography that has been underestimated for a long time: the one made by non-cartographers. Related to this phenomenon, the present paper exposes the thesis that a new culture of mapmaking has emerged in cyberspace and the characteristics of it are very different from the one developed by classic cartography, since this new way of making maps is marked by the production of a group that doesn't follow scientific rules of cartography and uses innovative forms and techniques of map construction. The main objective here is to show the contrast that permeates these two different forms of designing the maps. To achieve this goal, the research methodology included bibliographic reading and visits to the virtual space. The literature addressed about the social and cultural issues involving mapmaking, especially in the western world, and

technologies of communication and information. In cyberspace, the mapping projects using the service of *Google Maps* were reviewed by its innovative themes and proposals. As seen in this paper, the early conclusions obtained from this course show that the map-makers of cyberspace create maps to ends and interests that professional cartographers do not take into account in their daily practice. While the authorities in the matter are looking for precision and accuracy in mapping process to result in representations that are valorized by their discourse of scientific truth, the culture of mapmaking seeks express new perspectives of the world and man relations with space, incorporating in their maps the subjectivity of poetry. Thus, in this new culture, by mappings is possible make friends, tell personal stories, express new ideas, reveal affection for some place, build communities and question society's use of space.

Introduction

Map and Culture are two concepts deeply connected when the act of mapmaking is understood as a process of world construction, not just as a localization tool. Based on this paradigm, a map is never a definitive representation of some phenomenon, but an image from the producer point of view. In this way, the maps may have different colours and forms, but they always reflect the culture of their creators. Each mapmaking culture can represent the world differently, it only depends on the techniques and the knowledge that are applied in a map production and the cartographer values and beliefs, elements that structure the cartographic rules of some specific society. Harley (1989, p.3) teaches about this matter when he discusses the development of western cartography:

the key question for us then becomes, "What type of rules have governed the development of cartography?" Cartography I define as a body of theoretical and practical knowledge that map-makers employ to construct maps as a distinct mode of visual representation. The question is, of course, historically specific: the rules of cartography vary in different societies.

In this sense, the understanding of representations constructed by distinct kinds of societies is found in the map production process and in the culture that guides the cartographer's activity.

Theoretically based on the ideas of Derrida, the author also defines maps as culture texts. For him (1989, p. 7) it is much more reasonable to consider them as a text rather than "the mirror of nature", because, he explains using the words of McKenzie, "what constitutes a text is not the presence of linguistic elements but the act of construction". The importance of this thinking is that the textuality makes possible to read between the lines of map contents and forms and interpret the relations it represents. Harley (1989, p. 3) says that in this moment "we begin to learn that cartographic facts are only facts within a specific cultural perspective. We start to understand how maps, like art, far from being 'a transparent opening to the world', are but 'a particular human way ... of looking at the world'".

Thus, these visual texts do not tell the history of the world, but many narratives about it; and, they uneven represent its territory, but possible geographies created by multiple relations between man and space.

The acceptance of such principles is the beginning to comprehend the contemporary cartography that has been marked by recent communication technologies. The appropriation of cyberspace by many internet users to create maps is a practice that seems to bring some changes to cartography, especially to the production process and to the contents and relations man-space that are represented. From the tools and devices that are offered by virtual mapping programs like *Google Maps* and from the cultural perspectives born with the interconnection of computers, human beings and knowledge a new cartography has emerged.

The mapping technology which has been developed within the cyberculture allows anyone with internet access to construct maps of their own interest and needs and share with the rest of the world. These resources have been explored in different forms and levels by common people, creating maps of all kind of themes and uses. For Lemos, in interview conceded for Beiguelman (Beiguelman; Lemos, 2008, n.p.), such systems of digital mapping released the necessary conditions to produce maps and contents with no precedents in humankind history and turns possible people and communities map their own spacial realities, which means that today, he says: "...its possible to produce histories about places that are not the official ones, to create meaning beyond the official reproduction"³.

Because the new culture of mapmaking is held by cartographers that are not scientists and is supported by technologies that offer new ways to map the world, cartography is going through changes that must be discussed. That's why the present paper will examine some essential aspects to understand the meaning of these transformations and open new possibilities of space representation.

The scientific rules of making maps

The classic cartography as an important instrument to analyse spatial data information has been developed in a cultural environment that was continuously searching for objectivity and verified truth. In that time the predominant cartographic thinking was that maps were, and should be, a reproduction of the world in a minimized size and those maps could never be questioned. Harley (1989) says that map producers and users have believed in this statement for a long time.

The worry of almost all cartographers in the process of mapping has always been related to technical questions, because the progress of these elements would guarantee more trustful representations. Much has been invested in the development of precise instruments and procedures to achieve this status which, according to Harley (1989, p. 4), were supported by the belief that...

... the objects in the world to be mapped are real and objective, and that they enjoy an existence independent of the cartographer; that their reality can be expressed in mathematical terms; that systematic observation and measurement offer the only route to cartographic truth; and that this truth can be independently verified.

So, there is a strong tradition in cartography that preconize the technical domain in the search for similarity and objectivity standards in maps production. Also second to Harley (1989) many maps that did not follow the principles of precision and standardization in their production process were not considered as a map by professional cartographers, but only a graphic representation. In this way, maps that did not use the conventional rules of cartography, like the ancient and non-western maps and the daily use ones, were ignored by cartographers. For Cosgrove (1999, p. 14), this scientific position underestimated the open, partial and contingent qualities of maps while superestimated maps with generic, closed and aesthetics features.

Harley (1989) thinks that such assumptions also guides the cartographic production today, a good example that proves this relation nowadays is the invention of an advanced technologie called GIS (Geographic Information System), wich has spread in Academy the paradigm of progress and precision.

When a great part of cartographers agreed with this position they were making a big mistake ignoring the complexity and subjectivity relation that exists between the subject and the object in the knowlodge production. New theoretical approaches in cartography studies have been looking for these questions in the last decades trying to comprehend what is hidden in the technical discourse of cartography. Acordding to Harley (1989), the rules that orient the production of maps are full of power relations trying to fit the humanity perspective of the world. The set of rules and procedures that supports modern western cartography have materialized in maps the producer interests and values instead of representing only the reality of space. About this matter, the author (Harley, 1989, p.11) completes:

the steps in making a map - selection, omission, simplification, classification, the creation of hierarchies, and 'symbolization' - are all inherently rhetorical. In their intentions as much as in their applications they signify subjective human purposes rather than reciprocating the workings of some "fundamental law of cartographic generalisation".

Also studying these questions, Wood (1992) presents in his book the way cartography works by serving interests. He says that every kind of map is a product of a selection, a choice of one aspect to be mapped that is not impartial, because meets the interests of a class or assossiation, or a city or country that in the end is looking for the reproduction of its social and cultural system. Thus, acordding to him, the presences and absences embodied in the map by an interest selection cartography accomplish its task: reproduce the *status quo*.

In this context it is easy to understand what Harley (1989, p. 7) wants to say when he

writes: "... maps are at least as much an image of the social order as they are a measurement of the phenomenal world of objects".

The view of Harley (1989) is that maps are made by two distinct forms of power: the power of influence in societies when achieve the reproduction of social and politics relations or ethics and religious values, and the power that cartographers exercise in the moment they are mapping. That's why for him, the process of mapmaking is consider the first point to understand the consequences of these constructions in society.

The author says that while constructing the map, the cartographer is realizing many procedures and making use of a variety of resourses to represent the world. For example, the selection of maps cathegories and the organization of spatial elements in a hierarchy are necessary steps to map the "true" reality of space. However, for Harley (1989) these steps and techniques constitute a set of rules that actually is uncounsciouly trying to control the image of the world. He (Harley, 1989, p. 13) relates these ideas to Foucault theory about discipline institutions:

an analogy is to what happens to data in the cartographer's workshop and what happens to people in the disciplinary institutions - prisons, schools, armies, factories – described by Foucault: in both cases a process of normalization occurs. (...) The power of the mapmaker was not generally exercised over individuals but over the knowledge of the world made available to people in general.

In this way everything that is read in the map text has going through a process of classification and standardization even if the objects to be mapped have almost no order and uniformity. So, the power exercised by cartographers reduces in two senses – to fit in the paper and to simplify – a complex, contradictory and multiple reality. Thus, the images produced in this logic communicate a reality and space stereotyped, because, as Harley (1989, p. 14) says, "all the world is designed to look the same".

In the mapping process the essential features that give sense to a place are eliminated and this also eliminates what is essential between the map and the space it represents: *life*. The empty and generic image seems to have no actors or history. Looking at the road atlas of United States of America, Harley (1989, p. 14) also search for these dynamic aspects but seems that he can't find: "where, on the page, is the variety of nature, where is the history of the landscape, and where is the space-time of human experience in such anonymized maps?"

However, even if the human dimension is not showed in these maps, the society suffers the effects and consequences, as the way we think the world and act over it is influenced by these images. The actions and human conscience are in many cases determined by the knowledge and view of the world that the cartographic representations show.

A map, for example, is able to define the limits of the territory of a nation in conflict while the authors of this decision do not consider the identity that people establish with the space. This would not happen if other spatial relations were incorporated in its text.

Thus, the knowledge that is available to the society through the maps can allow (or not) fights to happen or certain relations to be kept.

This is why Harley (1989, p.14) says: “while the map is never the reality, in such ways it helps to create a different reality. Once embedded in the published text the lines on the map acquire an authority that may be hard to dislodge”.

The mapmaking of a new culture

The maps in cyberculture, as in any other map produced by the scientific cartography community are also interested constructions, because they are produced for a purpose, they also have power over the knowledge, since different techniques and procedures are used in their production, and also affect the human thinking and action, interfering in people’s view of the world. However, there seem to be huge differences between them regarding their objectives, the reality that they represent, the way they are produced and, mainly, regarding their unfoldments in the relation of men with space, considering that, now, in the contemporary culture, according to Lemos (2007, 129), “the technological rationality that inherited modernity is hand in hand with the symbolic, the mythical and the religious”⁴.

In this sense, the culture marked by the digital technology is not only characterized by its technical dimension which clearly constitutes great part of the imaginary of our times, but mainly by the use that society makes of these tools and by what they are able to create. Regarding cartography, what emerges from this new universe and is accessed in the cyberspace is a great variety of maps that provoke the traditional cartographers, that reveal the human extension of space, that provide new spatial experiences, that represent other geographies, denunciate and create bonds.

The online mapping project *MapMyGlobe*⁵ is an example of challenge to the traditional cartography, as through the hypertext and the internet’s communicative potential the new cartographer Julien C constructed an open map, in constant mutation, not following a pattern. The objective is to create an interactive travel guide, presenting descriptions, stories and information about different places from all over the world under different points of view. For this, in his site, the earth surface is mapped collaboratively, in other words, any user can be the author of this map through the creation of screens and edition of contents. This way the content can come from any place, at any time and refer to any point of the map, revealing the heterogeneity of the geographic space.

As for *Ushahidi*⁶ project, people contribute to another type of mapping, a more political and social one. Trying to show Kenya’s population suffering to the world during the conflict that took place after president’s elections in December of 2007, a map of violence in the country was constructed. Based on the denunciations of human rights violation reported in the site, which checks the veracity of all the information, the African people suffering was then spatialized and narrated.

This way, the new on-line mapping tools enables maps to be produced to have a social function of creating other versions of the story rather than keeping the *status quo*. Thus, these maps give way for other ideas and views of reality to be known, as Feng noted about her master's degree project in interview for Clark (Clark; Feng, 2008, n.p.): "maps are powerful tools. Many people take them as fact, but they tell the story the creator wants you to see. Grassroots communities and artists welcome this technology because it allows their voices to be heard".

If on one hand social nets are formed to map a fact of great political importance throughout the world, on the other hand personal and playful geographies emerge in the cyberspace. Thus, internet users can write stories by cartography, as can be seen respectively in the projects *Invisible Stories*⁷ and *21 Steps*⁸.

The first is about a mapping that tells the story of Sao Paulo inhabitants. People narrate their stories in the places showed in the map creating a kind of spatial biography. The authors of narratives are not celebrities and neither have lived any particular situation that should be showed on TV, rather, they are people who live the everyday life and for this reason their lives would not be known if it weren't for this project. Marcos Rogério is a young man who left the Northeast of Brazil with his mother, more specifically Bahia, when he was very young. In Sao Paulo he lived one year in a disciplinary institute where he was spanked many times. One day he went to live in the streets of the metropolis where he has been living since then. Near Patio do Colegio, his address at that time, he met Gilmara, who became his partner.

The second example refers to a digital fiction made specially to be told in a map. Published by Penquim Publisher, the adventure by Charles Cumming is about an episode lived by Rick Blackwell in the beginning of the story. A man he doesn't know calls him by his name and dies, leading the character to take a long trip from London to Edinburg to find out what is there behind that mystery. The reader of this book in form of interactive map follows the story by the windows that open in some specific points and by the trajectory that the protagonist makes through animated lines that are drawn in the represented space.

Bolder projects which try to produce spatial experiences through online mapping also characterize the contemporary cartography and maybe they are the most representative maps of the cyberspace, which Lemos (1996) calls magic. This is because, in addition to presenting art, these projects also explore virtuality, aiming at questioning, potentializing and making it possible for us to feel the relations and uses that we establish with the space. The thinking of Nunes (2005) about this matter is very elucidative, especially because of the concept that he applies. He (2005, p. 6) says that these new types of mapping, as well as other pieces that conjugate art, science and technique "are interdisciplinary experiences in which technology is the means (not the objective) to amplify *unwelt*, showing what would be unnoticeable in other ways"⁹.

Changes in cartography

In this context, it can be concluded that what moves the cartography production in the cyberspace is not the search for the increasingly accurate reproduction of reality through advanced mapping techniques, but the desire and possibility to map the many dimensions of space in different ways and with different purposes. Therefore, the cartography which emerges from this new mapping culture seems to acquire and reaffirm a post modern perspective, since its representations do not try to be a great discourse, a narrative goal, result of generalizations, but a geographical narrative out of the circuit, small and complex, with more suspicions than certainties, having lots of differences and special paradoxes that don't appear in the scale of the big world maps.

Lemos (Beiguelman; Lemos, 2008, n.p.) also shares this opinion. In his point of view:

the most interesting is to see how projects with locative media prevent us from being taken in hegemonic theories by important authors who address 'the end of places', 'the end of the urban', the 'dematerialization', and the total 'desterritorialization' of the real for the unreal, placelessness. I think that what we are seeing today in these projects are effective uses of the places, the creation of what I call 'informational territories' which redefine the contemporary places.¹⁰

This way, we can see a mapped human space much more coherent with the one we live in and feel every day. A space that comprehends the playfulness, the contradictions, multiplicities and flows, as the globalization process which originated it is not only homogenization and dematerialization, but mainly hybridation and multiterritorialization.

The access to these mapping tools and to the different types of movable localization devices also points to the emergence of a trend with several implications in the contemporary cartography. "Map everything all the time"¹¹ has become the objective of many cartographers of the cyberspace and, as we can see according to Beiguelman (2008, n.p.), following this tendency they seem to have fallen in the same temptation that during a long time permeated the science of maps, the one that tried to produce a copy of reality.

the unfoldments of the explosion of new mapping and localization formats brought by the popularization of the GPS and the accessibility of the online maps are undeniable. All of this, however, points to the new geopolitical dynamics and to a certain esthetical redundancy, sliding on the utopia of a map in the scale 1:1, as one day the sad borgean character dreamed of in 'Del Rigor en la Ciencia'.¹²

Lemos (Beiguelman; Lemos, 2008, n.p) also agrees with this statement, because for him... "today, with the GPS and sensors the informational potency makes movement in the space exactly coincident with the movement in electronic maps. Therefore, walk with a GPS is like walking on a 1:1 scale map".¹³

In this paper this issue was not deeply discussed, because the aim was to show the movement of cyberculture which overcomes this old tradition in cartography, which

might not have reached the scientific rigor desired through the solution presented in Borges's tale, however, as it is possible to observe historically did it by using increasingly advanced techniques. Thus, the main objective was to understand the unfoldments of the new spatial representations constructed by people for whom, in Feng's words (Clark; Feng, 2008, n.p.) "mapping has become a vibrant new language – a way to interpret the world, find like-minded folks and make fresh and sometimes radical perspectives visible".

In face of this we must consider a last - but not least - point that seems to revert, or better saying, confuse the present scenario where cartography is according to Harley (1990). For the author, it would be passing through a moment of representation crisis, as the contents of its maps would not have social relevance anymore and the advance and application of new mapping technology such as GIS would have become an objective itself and not a new means of knowledge, putting men increasingly apart from the world of maps. However, this announced crisis now relies on new expectations regarding the approximation of humanity and cartography based on the possibility of producing culture intervening directly in the cyberspace.

Notes

¹ <http://maps.google.com/>

² <http://code.google.com/intl/en/apis/maps/>

³ original text in Portuguese: "... é possível produzir histórias sobre os lugares que não são as oficiais, criar sentido além da reprodução oficial".

⁴ original text in Portuguese: "a racionalidade tecnológica, herdeira da modernidade, anda ao lado com o simbólico, o mítico e o religioso".

⁵ <http://www.mapmyglobe.com/>

⁶ <http://kenya.ushahidi.com/>

⁷ <http://maps.google.com.br/> search *invisible stories* in *contents created by users*.

⁸ <http://wetellstories.co.uk/stories/week1/>

⁹ original text in Portuguese: "são experiências interdisciplinares nas quais a tecnologia é meio (e não finalidade) para a ampliação do *unwelt*, possibilitando perceber o que seria, de outras formas, imperceptível".

¹⁰ original text in Portuguese: "o mais interessante é ver como projetos com mídias locativas impedem que caiamos em teses hegemônicas de autores consagrados que afirmam o 'fim do urbano', a 'desmaterialização' e a 'desterritorialização' completa do real pelo 'virtual', a perda do 'sentido de lugar' etc. Acho que o que estamos vendo hoje nesses projetos são usos efetivos dos lugares, criação do que chamo de 'territórios informacionais' que redefinem os lugares contemporâneos".

¹¹ expression taken from Clark (2008, n.p.).

¹² original text in Portuguese: "são inegáveis os desdobramentos da explosão dos novos

formatos de mapeamento e localização que se abrem com a popularização dos GPSs e a acessibilidade dos mapas online. Tudo isso, no entanto, aponta para novas dinâmicas geopolíticas e para certa redundância estética, em que se patina na utopia de um mapa na escala 1:1, como um dia sonhou o triste personagem borgeano de ‘Do Rigor na Ciência’”.

¹³ original text in Portuguese: “hoje, com GPS e sensores, a potência informacional faz com que o deslocamento pelo espaço coincida exatamente com percursos por mapas eletrônicos. Assim, andar com GPS é como andar em um mapa de escala 1:1”.

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