DIGITAL CULTURE CARTOGRAPHY: THE ROLE OF THE ARCHIVIST IN INFORMATION MANAGEMENT

Anahi Rocha Silva
Unesp Marília, Brazil
anahiadv@yahoo.com.br

María José Vicentini Jorente
Unesp Marília, Brazil
mjjorente@marilia.unesp.br

Natália Nakano
Unesp Marília, Brazil
natinakano@gmail.com

Abstract

Digital maps, produced and used in different contexts and themes, can be interpreted in different ways by different agents, thanks to layers of information and the use of multiple media: photos, texts, videos; the communication can be made not only through a Personal Computer, but also on the web through mobile devices. A Cultural Map is a type of digital map that shows georeferenced points where cultural events take place, identifies protected areas such as historical and cultural heritage buildings and promotes the cultural location of the cultural object. It is an information system of cultural indicators in states and cities, with the collaboration and participation of lay people, public and private managers, under the direction and organization of an information professional, the Archivist. The role of the Archivist in this complex system is to give access to information related to culture, planning of expenditures, investments and priorities. In Brazil, cultural maps are provided in the National Culture System Act, implemented in the format of Latin America and worldwide countries, which already has collected the benefits of cultural data: Argentina, Uruguay, Colombia, Mexico, France and Spain. Therefore, the objective of this research is to study the use of cultural mapping, diagnostic and geolocation data in Brazil. It is justified as cultural mapping may provide direct access to government information in decision making; in addition, there is a shortage of Brazilian scientific journals that discuss the theme. The methodology of this study consisted primarily of a literature review, searching on databases (Science Direct, Google Scholar and SciELO), and keywords related to geolocation: Geographic Information Science and cultural mapping. As partial considerations, we observed the existence of cultural maps built by the public and private institutions, highlighting however, the need for information convergence and interoperability. Despite the large volume of information generated, we verified the lack of some of the tools used to organize the resulting files on the web; also observed that the study of this information can guide governmental decision making as the information generated is not self-descriptive.

Keywords: Cultural Cartography, Digital Culture, Information and Technology, Collaborative Web, Archives.

Introduction

We, humans, feel the need to recognize our location, the place we live; we need to name, describe, and represent our environment and understand its dynamics. Therefore, maps have been created by mankind since we lived in caves.

According to Jaques Bertin (1983 [1967]), cartographer and author of the seminal book Semiologie Graphique, the map is a graphical representation that allows more complete analysis through visualization of data, either considering a single component or the set of components represented in the same graphical construction.

Thus, the aim of viewing a map is to produce a scientific understanding by facilitating the identification of patterns, relationships and its abnormalities in spatial data (Maceachren & Ganter, 1990).

The transformation in the forms of representing maps occurred as the employed technologies and the media evolved, especially the use of Information and Communication Technologies (ICT) and the advent of cyberspace as a new space of meanings and interaction, communication and life in society. In the words of Maceachren & Ganter (1990):

> At scales from the sub-atomic to the astronomic, there has been a dramatic renewal of interest in visualization as a tool of science. This renewed interest follows decades of disdain for visual depiction of data in favor of more 'objective' analytical approaches. The power of human vision is, once again, valued as an important tool in advancement of science (p. 64).

Mapping in digital environment, known as Geographic Information System (GIS) can be defined as the set of techniques and methodologies that involve the acquisition, archiving, processing and representation of data through hardware and GIS software or geolocation, computer technology, database and digital cartography.

GIS originated with the development of the Canadian Geographic Information System (CGIS) in the early 1960s (Pidwirny, 2006), but from the 1990s to the 20th century, it has developed and its use gradually increased; it has fostered the growth and widespread use of digital maps, thriving the forms of use in various contexts: social, economical, and political.

Interactive mapping in digital media has also allowed the overlapping layers of information that can be linked with use of visual variables, which allows the reader to perform different groupings, distributions, associations or isolation of the information presented (Bertin, 1983 [1967]), depending on the context to be represented on its purpose, allowing it to be "read" in different ways.

Digital mapping not only includes modeling and visualization of data, but also contains the precepts of collaborative web, in that it allows for participation of developers and users in its construction, providing information from the collection and systematization of content to the use of these maps in decision making (Goldstein et al, 2012).

In the information environment of Collaborative Web there is decentralized and shared knowledge production, which generates a new cultural setting of exponential representation in the information flow. It reinforces that collaborative interactive mapping does not have a final, closed form: it presents uninterrupted growth once it is enriched by the contributions of a multitude of individuals that build networks of information and communication. Cook (2007) defines the time of electronic records as times of "firsts":

> For the first time, we have business officers and professionals creating and storing their own records rather than relying on an army of secretaries, file clerks, and records managers to do this work for them. Most important, for the first time, we are not producing, managing and saving physical things or artifacts, but rather trying to understand and preserve logical and virtual patterns that give electronic information its structure, content, and context, and thus its meaning as a "record" or as evidence of acts and transactions (p. 401-402).

As for the role of archivists, these firsts mean the beginning to shift to the post-custodial or post-modernist paradigm:

> We have paper minds trying to cope with electronic realities. Our mindsets and solutions come from and reflect generations of practice in a paper-based world, a world as well of fixed structures and Weberian hierarchies where the office of origin of each record created was perfectly clear, and relatively stable over time. This older world is no longer holding (Cook, 2007, p. 405-406).

Similarly to education, scientific research and health, culture is seen in post modernity as an important material and immaterial heritage. Therefore, the idea of a database with information on culture has been discussed between UNESCO and Brazil since 2002, in the context of implementation of cultural policy programs (Coelho, 2003).

Before that, the research focused on cultural databases was almost exclusively concerned with its economic content. The focus was the economy of culture, its productive dimension and its role in the national economy. This was demonstrated by Libânio (2014) through three surveys on cultural indicators that preceded the "Sistema Nacional de Cultura" (National System of Culture) (Brasil, 2010). The first survey was elaborated by the "Instituto Brasileiro de Geografia e Estatística" (Brazilian Institute of Geography and Statistics) - IBGE, and was launched in 2006; the second published in 2007 by the "Instituto de Pesquisa Econômica Aplicada" (Institute of Applied Economic Research) - IPEA, which brought two volumes of "Coleção Cadernos de Políticas Culturais" (Collection of Cultural Policies), with review of cultural policies in Brazil in the period 2002-2006, and the third was also released in March 2007 by João Pinheiro Foundation, named "Experiências de Financiamento à Cultura em Municípios de Minas Gerais: gastos públicos, aparato institucional e mecanismos de incentivo" (Experiences of Financing Culture in the cities of Minas Gerais: public

spending, institutional apparatus and incentive mechanisms).

This concern, in part, occurred as a result of the perceived major impact of culture, especially in the Gross Domestic Product (GDP) on a country's economy of countries, making the creation of organizations and institutions that collect, systematize and analyze data on the culture and cultural industries crucial.

However, culture is not just a matter for the economy or an economy concept, it is also the foundation of identity, energy and creative ideas of the people, the culture, in all its diversity (UNESCO, 2014).

In this sense, Sistema Nacional de Cultura, under Law Number 12.343/10, is a model for managing and promoting public policies that aims to discuss Brazilian culture in all its aspects; for proposing strategies for their empowerment and universal access to production and enjoyment of cultural goods and services; for consolidating social participation and control in the management of public cultural policies (Ministério da Cultura, 2011).

One of the strategies for the consolidation of participation and social control systems has been the implementation of the Sistema Nacional de Informações e Indicadores Culturais (National System of Information and Cultural Indicators) - SNIIC - launched in 2012 as the integrating platform of information for monitoring the Plano Nacional de Cultura (National Culture Plan). This platform follows the model of other Latin America and worldwide countries that already have a cultural database as Argentina, Uruguay, Colombia, Mexico, France and Spain.

Among the functions of cultural mapping of SNIIC are: promoting the collection, systematization and interpretation of data; providing methodologies and establishing parameters to measure activity in the cultural field and social needs for culture, as well as enabling the formulation, monitoring, management and evaluation of public cultural policies and cultural policies (Ministério da Cultura, 2011).

SNIIC's cultural mapping will also offer georeferenced data search, statistics, indicators and other relevant information of cultural goods and services; provide support to public and private cultural management services and greater social control of resources, and information collected in the States and cities - made available by the population and public administrators in a collaborative and open way (Ministério da Cultura, 2011).

This cultural mapping, in particular, displays georeferenced spots, usually presented in classified layers into categories corresponding to the base map layer, material and immaterial goods, cultural facilities and funding.

> Systems of converging and sharing networks propose technical and technological challenges that need to be dealt with to be effective as builder of collective knowledge so that they can face the challenges of socio-technical character (Jorente, 2014, p.122)

The technological convergence terminology has become more used from the 1990s due to the popularization of the Internet. This teminology describes the unification of two or more networks of information and communication that employ technological unifying patterns as the IP protocol; and more currently the Session Initiation Protocol (SIP), which makes use of a request-response model similar to HTTP, but that integrates various content and enables multicast communications.

Base map layer is the map on which the information is constructed. Material goods are the set of buildings that comprehend historic and cultural heritage, as well as archaeological, paleontological and environmental reservations. Immaterial goods are the products related to artistic expression, handicrafts, gastronomy, cultural events, popular festivals, exhibitions, historical and cultural memory and traditions. As cultural facilities, they correspond to libraries, museums, public archives, memory centers, documentation centers, cultural centers, theater, cinema, circus. Activities related to the funding, they mean funding or other support from public or private entities and individuals, to the arts and culture, practice known as patronage.

SNIIC's cultural mapping also conducts a thorough survey on the current situation and possibilities of creative development economy in a city or region, considering the associations and enterprises as well as individual initiatives and opportunities for existing and potential businesses; within the map producers may find other producers and society can also find spaces to produce and consume cultural goods.

Thus, the digital environment of the cultural heritage digital map comprises a process of generation, transfer and use of information through an interactive visual interface with multiple layers of information where it is possible to locate cultural facilities, check opening hours, see images of the site, watch related videos and read about the promoted cultural activities.

Moreover, through cultural mapping it is possible to acknowledge all the cultural manifestations of a region and to present a number of possibilities and advantages that outweigh the mere listing of names and addresses that are often the only products of extensive and expensive research (Libânio, 2010).

Collecting, organizing, systematizing, making understandable and disseminating objective information about culture as well as the entire volume of data generated, is not a simple, self-descriptive activity, and frequently is not interoperable. Therefore, carrying out the integration of information and promoting access to geoinformacional content, or even producing statistics and instruments that are able to find and exploit the information produced in a large volume, represents a great challenge and requires a certain set of skills and abilities .

These technical skills and information management system methods have been long explored by the traditional disciplines of Information Science that investigates the properties and information behavior, the forces that govern the flow of information, the meanings of information processing, aiming at accessibility, usability, information representation in natural and artificial systems and the effects of information on people and machines (Borko, 1968).

MALHEIROS (2000) points out that more than one definition, Borko drew a scientific program that although three decades of age, remains current and full with inevitable epistemological effects, which emphasizes: a) define information as a phenomenon and process, b) articulate disciplines hitherto scattered and distant such as the Librarianship, Documentalism, Mathematics, Logic, Linguistics, Psychology, Computer and Communications Technology, Management and others; c) overcome saturated practical empiricism and common sense by building scientific knowledge that is both theoretical and applied; and d) separate the content/information from component accessory/support.

What's new is that Information Science is consolidated and legitimized in the context of contemporary society, requesting definitions and redefinitions of methods that enhance and highlight the important aspects of the relationship of dissemination, retrieval and sharing of information and knowledge.

Connecting knowledge from different areas and relate them to understand the whole is the basis of the Paradigm of Complexity. From this understanding, both Information Science and Geographic Information Science (GIS) study the information flows and both have, as their object, the information from the moment of its creation, organization, distribution, use and user satisfaction.

> In connective networks, warp and weft interwoven object, observer and method in a relational system of complexities that predisposes to the emergence through structures of languages and encodings. The network consists of nodes and connections that make the patterns interact. Considering such complexity, another trend proposes an attempt to replicate human intelligence.

It is noteworthy that the geographic information is not self-descriptive, which requires the user to master techniques and methods to find and exploit the information produced in large volumes. These methods and techniques are explored by Information Science.

From the viewpoint of Information Science, SNIIC platform can be considered a complex information system, as according to Pinto (2001) these systems interconnect the organic structure factor, service factor, use factor and the memory factor, reflecting all the dynamics and the complexity of the relationships web, cross-sectional and inter-sectoral, inter-organizational that characterize any production system [...], where the information professional now has a pivotal role.

The archivist is able to handle information in different perspectives, establish

mechanisms and tools that facilitate management of internal information flows. In the digital environment, the archivist plays an extremely important role in a multidisciplinary partnership, with collaboration of professionals from related areas such as Organization and Methods, Computer, Management, Social Sciences and Anthropology.

Terry Cook (2007) asks:

> how can archivists be post-modernist and post-custodial when, in the popular stereotype, they along with museum and art gallery curators are probably perceived as the most custodial, the most care-taking, the most preservationist, of all professionals in the modern world (2007, p. 400).

The author himself answers that the archivist are "keepers" (p. 400) that care for records, rescue things, restore and conserve them as well as preserve them traditionally. However, he suggests that archivists no longer can afford to be custodians in electronic world. He asserts that although traditional archivists will always be needed, they still need to develop new thinking and new approaches for the electronic records they will "receive tomorrow if not today" (Cook, 2007, p. 401).

> Perhaps reassuringly, the argument is also that our future success rests on reconceptualizing the traditional strengths of the profession, on taking the best and transforming it for a new age.[...] Central to any post-custodial reorientation of the archivist, or any other information professional, is the fundamental revolution affecting the very nature of society's collective memory caused by the widespread use of the computer, and especially the personal computer (p. 401).

In this same context, the concept of Archives and its physical ambiences have also been augmented in the post-modernity by collaborative practices. SNIIC is, therefore, seen not only as a complex system, but also as an augmented Archival environment by this study.

The fact that SNIIC is a collaborative-digital environment, does not disqualifies it as a product of administrative activity performed inherently by public officials in the performance of their function. Interestingly, the information produced can simultaneously have administrative character and also present historical character, altering the life cycles of the document. In addition, Sistema Nacional de Cultura (National Culture System) states that all information gathered in this digital platform should be used in the management of public cultural policies.

Thus, the volume of generated information stored in databases such as SNIIC's illustrates and embodies the perceptions of Cook (2012) on the end of documents as static physical objects and reconduction of them as virtual dynamic concepts. Therefore, these documents that are electronically recreated in the virtual environment transform an archive with new functions, promoting and strengthening the new paradigms in Archival Studies.

The latest reflections of Cook (2012) on Archival Studies being functional, not only

descriptive, replaces ideas, strategies and archival methodologies of the past centuries as concepts that are constantly evolving, ever-changing, constantly adapting. This represents radical changes in the nature of the records: in the structure of creating records, the use of contemporary records, and the broader trends in cultural, legal, technological, social and philosophical society. To Cook (2012), Functional Archival Studies are historical, virtual and post-modern. The concept of document was also reformulated within that virtual context, it becomes more dynamic, and its components - structure, content and context - are no longer fixed in a purely physical environment, since they are stored as data and by different software (Tognoli & Guimarães, 2011).

The methodology for our study was an exploratory analysis of documents on the Brazilian legislation of Plano Nacional de Cultura (National Culture Plan), which rules on the provision of cultural mapping. This study comprises a bibliographic interdisciplinary research on online databases on authors who address Archivistics, focusing on the role of professionals involved in the mediation process of information in digital environments. Searches on Databases Science Direct, SciELO and Google Scholar, using keywords geolocation, geo-referencing, Information Science, cultural mapping, participatory mapping and digital mapping were also performed. In addition, an exploratory search on the SNIIC website to understand and analyze this Brazilian initiative was carried out.

Sistema Nacional de Informações e Indicadores Culturais - SNIIC

This section aims to present the first Brazilian governmental experience of collaborative cultural mapping promoted nationally. The purpose of the platform is to offer the users a dynamic interface to contribute to production, management and dissemination of Brazilian cultural and artistic diversity. Figure 1 shows the Sistema Nacional de Informações e Indicadores Culturais - SNIIC's homepage.

Figure 1: SNIIC's homepage.

Source: Minstério da Cultura. Available at: <http://sniic.cultura.gov.br/>. Accessed on 27/08/2014.

The platform is built on the pillar of collaboration: it qualifies the use of public data inserted by the citizen and implements contexts and patterns that encourage the development of applications and services created from local demands. The role of the archivist in this complex process is, consequently, to work in the backstage, i.e., to control the flow of information produced and consumed by the collaborators.

Although browsing and consulting information on the SNIIC's webpage is possible whether being registered or not, if one wishes to register information about informant-users, cultural agents and cultural objects, registration is necessary. Firstly, some concepts brought by the system must be clarified in order to achieve optimal exploration on the complexity of the system. Informant-user can be any citizen who wishes to provide information on Brazilian culture. As for cultural agent, it is regarded as any professional or institution that is related to the world of culture: foundations, institutions, private companies or artists. Archivists will be probably act in this category. Cultural object can be understood as any form of expression by a registered cultural agent, for instance, a theater, a movie, or a folklore group.

SNIIC's principle is, therefore, that each cultural object is linked to a cultural agent and an informant-user. Thus, a logical chain that bonds organizations, institutions, managers and sponsors of cultural objects and any Brazilian citizen is formed.

On the homepage, below the navigation bar, one visualizes a green stripe with two yellow flaps: one of them grants access to the page of federal government legislation on Information Access Law (LAI). The menu is located below in the SNIIC's banner with four options: *Registration, Search, Extract, and Contact*. When the mouse rolls on them, the links

are disposed on the same background, opening smaller windows in the center of the page. Therefore, the user is not sent to another window or subpage, being led to a feeling of continuity on the page when using the links.

The option *Registration* allows the user to interact with the system by disposing a subtitle in the center of the page frame and below it a form in which email and login shall be entered. The registration also allows the informant-user to register cultural agents, cultural objects. On the registration, after the personal information is entered, the system demands responsibility for a certain cultural object. This shows also a concern by the developer of a collaborative environment in preventing actions of vandalism, which could occur.

In this sense, it is noteworthy that by registering, the informant-user must read and declare that is authorized to input as well as edit the data on the cultural objects to be filled, in addition, the informant-user agrees not to use the information for commercial purposes according to the Brazilian law of Information Access. Unlike Terms and Conditions of Use usually seen in commercial websites, the declaration does not oblige the informant-user to its terms, it requires the user to be responsible when filling in the forms.

On the bases of the registration form box, three situations appear in blue (red when the mouse is pointed): *Enter, New Registration, Forgot Password*. Although the color changes satisfactorily, it was verified that the typology is not appropriate for low vision people.

The option Search allows the user to perform a search using filters to find a cultural object or agent. The filters are: Keywords, SNIIC number of the agent or SNIIC number of the object. These three fields are followed by a search field of cultural objects with limited resources of visualization and a list that constitute a search by series of numbered keywords that lead to convergences: 1-cultural equipment, 10-Cultural sponsors, financing and encouragers, 2-cultural spaces of training, 3-cultural heritage, 4-cultural managing, deliberative or consulting institution, 5-cultural companies, 6-food and beverage shops, 7-cultural groups (associations, cooperatives), 8-permanent events, 9-people, communities or traditional groups. When one of the typologies is selected, a subfield opens with subtypologies of cultural agents, for instance, if the typology 1-cultural equipment is selected, the opened subtypology is: 1.1-Spaces for film exhibitions, 1.10-Religious spaces, 1.11-Other cultural equipment, 1.2-Libraries, 1.3-Theaters, 1.4-Circus (spaces), 1.5-Cultural centers, 1.6-Archives, 1.7-Museums, 1.9-Documentation centers. Other options of cultural agents will open when other cultural objects are selected in the first typology field.

The second search filter displays search by occupation to be entered by the user. The following search filter offers to select a profession. The options here are controlled by the system: 0-Members of the Army, Police and Fire Department, 1-Members of the government, managers of public and private organizations, 2-Science and Arts professionals, 3-

Tecnicians, 4-Administrative workers, 5-Commercial workers, shop and market workers, 6-Agricultural, fishing and forest workers, 7-Industrial and service goods production workers, 9-Maintenance and repair workers, 99-without pay. When one occupation is selected, another subfield is opened so the user can be more specific about the occupation. For instance, if 0-Members of the Army, Police and Fire Department, is selected, the subfield occupation will open with: 1-Member of the Army, 2-Military Police, 3-Military Firefighter.

The next search field is to select the State, and the last one to select the city.

It is important to notice, that it is possible to perform searches on the system anonymously as the Search option does not require previous registration on the system.

The option *Extract* offers the user downloadable data. *Contact* provides a form to be filled by the user to contact the developer of the system.

Regarding the georeferrenced information provided by the software, it is also informed by the informant-user. Once the registration is done, the informant-user is able to insert or edit a cultural agent. Among the information provided by the informant-user, he must fill in with the zip code, which allows the system to carry out the geolocation. The system requires the user to drag the arrow and help with the exact location of his cultural object, as shown in Figure 2.

Figure 2: Geolocation provided by SNIIC's system.

Source: <http://sniic.cultura.gov.br/res/manual/Manual_do_Usuario.pdf>. Access on: 27/08/2014.

Considerations:

Post-modern archivists must be able to work in multidisciplinary teams, research, recognize and articulate all these social and contextual changes emerged with the impact of information and communication technologies on the archival theory, methodology and practice. In this same sense, Cook (2007) agreed that as information professionals,

archivists have to guide people to specific information in order to acquire knowledge, and only in this way archivists will actually contribute to contemporary society and reach posterity.

The challenge for the archival science in the new century is to preserve the recorded proof of governance, not just governments that are in power. The archivist, when appraising and performing any subsequent action, should focus on the records of governance, not just the government as institution in the traditional sense when dealing with institutional records.

It was observed that the possibilities presented by SNIIC require more of archives and archivists than the traditional descriptive professional practices. The digital cultural mapping is a complex information system, which combines the performance of the government and citizen participation, and that the information collected will be gathered, organized to be used in the guidance of public cultural policies.

Bibliography:

BERTIN, Jacques (1983). "Semiology of Graphics: Diagrams, Networks, Maps". Translation by William J. Berg. The University of Wisonsin Press, Milwaukee, Wisconsin, USA.

BORKO, H (1968). "Information Science: What is it?" American Documentation, v.19, n.1, p.3-5, Jan.<http://disciplinas.stoa.usp.br/pluginfile.php/164799/mod_resource/content/1/BORKO_Information%20science%20what%20is%20it%20.pdf>. [Last accessed: 14/06/2014].

BRASIL. Lei N° 12.343, de 2 de dezembro de 2010. Institui o Plano Nacional de Cultura - PNC, cria o Sistema Nacional de Informações e Indicadores Culturais - SNIIC e dá outras providências.   < http://www.cultura.gov.br/documents/10907/963783/Lei+12.343++PNC.pdf/e9882c97-f62a-40de-bc74-8dc694fe777a>. [Last accessed 14/06/2014]

CAETANO, Gerardo (2007). "A experiência internacional e a criação do observatório". Itaú cultural. Revista Observatório Itaú Cultural / OIC - n. 1 (jan./abr. 2007). – São Paulo, SP : Itaú Cultural, 2007. <http://d3nv1jy4u7zmsc.cloudfront.net/wp-content/uploads/itau_pdf/000312.pdf>. [Last accessed: 14/06/2014].

COELHO, José Teixeira (2003). "Banco de dados: do inerte cultural à cultura da vida". Políticas culturais para o desenvolvimento: uma base de dados para a cultura. Brasília : UNESCO Brasil. <http://unesdoc.unesco.org/images/0013/001318/131873por.pdf>. [Last accessed: 14/06/2014].

COOK, Terry (2007). "Electronic Records, Paper Minds: The Revolution in Information Management and Archives in the Post-Custodial and Post-Modernist Era". En: Archives & Social Studies: A Journal of Interdisciplinary Research, vol. 1, n. 0. < http://archivo.cartagena.es/files/36-164-DOC_FICHERO1/06-cook_electronic.pdf>. [Last Accessed: 30/08/2014].

COOK, Terry (2012). "A ciência arquivística e o pós-modernismo: novas formulações para conceitos antigos". InCID: R. Ci. Inf. e Doc., Ribeirão Preto, v. 3, n. 2, p. 3-27, jul./dez. 2012. <file:///C:/Users/Guida/Downloads/48651-59371-1-PB%20(1).pdf.   [Last   accessed:

14/06/2014].

GOLDSTEIN, Roberta Argento; BARCELLOS, Christovam; MAGALHÃES, Monica de Avelar Figueiredo Mafra; GRACIE, Renata; VIACAVA, Francisco (2013). "A experiência de mapeamento participativo para a construção de uma alternativa cartográfica para a ESF". Ciência & Saúde Coletiva, Rio de Janeiro, v. 18, n. 1, Jan. 2013. <http://www.scielo.br/scielo.php? >. [Last accessed: 12/02/2014].

JORENTE, Maria José Vicentini (2014). "Design da Informação, linguagens convergentes e complexidade na rede social e ambiente digital do Facebook. En:Informação & Tecnologia (ITEC). <http://periodicos.ufpb.br/ojs/index.php/itec/article/view/19631/10976>. [Last accessed: 27/08/2014].

LEMOS, André (2007). "Comunicação e práticas sociais no espaço urbano: as características dos Dispositivos Híbridos Móveis de Conexão Multirredes (DHMCM)". <http://www.facom.ufba.br/ciberpesquisa/andrelemos/DHMCM.pdf>. [Last accessed: 12/02/2014].

LIBÂNIO, Clarice de Assis. "Mapeamento cultural: política pública e convivência social". *In*:Favela é isso aí. <http://www.favelaeissoai.com.br/upload/Mapeamento%20cultural.pdf>. [Last accessed: 14/06/2014].

LIBÂNIO, Clarice de Assis (2014). "Política cultural e acesso à cidade". V SEMINÁRIO INTERNACIONAL – POLÍTICAS CULTURAIS – 7 a 9 de maio/2014. Setor de Políticas Culturais – Fundação Casa de Rui Barbosa – Rio de Janeiro – Brasil. <http://culturadigital.br/politicaculturalcasaderuibarbosa/files/2014/06/Clarice-de-Assis-Lib%C3%A2nio.pdf>. [Last accessed: 14/06/2014].

MACEACHREN, Alan M. GANTER, John H. (1990) "A pattern identification approach to cartographic visualization". En: Cartographica, vol. 27, n. 2, pp 64-81. < http://utpjournals.metapress.com/content/m226133723873007/>. [Last accessed: 14/06/2014]

MINISTÉRIO DA CULTURA. Estruturação, Institucionalização e Implementação do Sistema Nacional de Cultura (2011). <http://www.fundacaocultural.ba.gov.br/colegiadossetoriais/livro11-602-para-aprovacao.pdf>. [Last accessed: 14/06/2014].

PIDWIRNY, M. (2006). "Introduction to Geographic Information Systems". Fundamentals of Physical Geography, 2nd Edition. Date Viewed. <http://www.physicalgeography.net/fundamentals/2f.html>. [Last accessed: 14/06/2014].

PINTO, Maria Manuela Gomes de Azevedo Pinto (2001). "O novo paradigma da arquivística : um estudo de caso". In CONGRESSO NACIONAL DE BIBLIOTECÁRIOS ARQUIVISTAS E DOCUMENTALISTAS INFORMAÇÃO, 7, Porto, 2001- O desafio do futuro. Porto: Associação Portuguesa de Bibliotecários Arquivistas e Documentalistas, 2001. Available at: <http://ler.letras.up.pt/uploads/ficheiros/3090.pdf>. [Last accessed: 29/07/2014].

ROSÁRIO, Neusa Martins do (2010). "Mapeamento dos equipamentos e manifestações culturais no município de Serrolândia/BA". Monografia apresentada para obtenção do grau de Bacharel em Comunicação, no curso Comunicação Social – Produção em Comunicação e Cultura de graduação, da Universidade Federal da Bahia. <http://culturadigital.br/politicaculturalcasaderuibarbosa/files/2014/06/Neusa-Martins-do-Ros%C3%A1rio.pdf>. [Last accessed: 29/07/2014].

ROSÁRIO, Neusa Martins do (2014). "Desenvolvimento e políticas culturais: dimensões simbólica, cidadã e econômica da cultura na organização de dados culturais locais". V SEMINÁRIO INTERNACIONAL – POLÍTICAS CULTURAIS – 7 a 9 de maio/2014. Setor de Políticas Culturais – Fundação Casa de Rui Barbosa – Rio de Janeiro – Brasil. <http://culturadigital.br/politicaculturalcasaderuibarbosa/files/2014/06/Neusa-Martins-do-Ros%C3%A1rio.pdf>. [Last accessed: 29/07/2014].

SILVA, Armando B. Malheiro da (2000). "A gestão da informação arquivística e suas repercussões na produção do conhecimento científico". Seminário Internacional de Arquivos de Tradição Ibérica, abril 2000, Arquivo Nacional – CONARQ, Rio de Janeiro. <http://www.conarq.arquivonacional.gov.br/Media/publicacoes/ibericas/a_gesto_da_informao_arquivstica.pdf>. [Last accessed: 29/07/2014].

SISTEMA NACIONAL DE INFORMAÇÃO E INDICADORES EM CULTURA – SNIIC. <http://www.cultura.gov.br>. [Last accessed: 29/07/2014].

SISTEMA DE INFORMAÇÃO E INDICADORES EM CULTURA (SIIC/SECULT-BA). <http://www.cultura.ba.gov.br>. [Last accessed: 14/06/2014].

TOGNOLI, Natália Bolfarini; GUIMARÃES, José Augusto Chaves (2011). "A organização do conhecimento arquivístico: perspectivas de renovação a partir das abordagens científicas canadenses". Perspectivas em Ciência da Informação, v.16, n.1, p.21-44, jan./mar. 2011. <file:///C:/Users/Guida/Downloads/Perspect__ci%C3%AAnc__inf_-16(1)2011a_organizacao_do_conhecimento_arquivistico-_perspectivas_de_renovacao_a_partir_das_abordagens_cientificas_canadenses.pdf.> [Last accessed: 13/07/2014].

UNESCO (2003). "Políticas Culturais para o desenvolvimento". Brasília : UNESCO Brasil, 2003. 236 p. <http://unesdoc.unesco.org/images/0013/001318/131873por.pdf>. [Last accessed: 14/06/2014].

UNESCO. "Organização das Nações Unidas para a Educação, a Ciência e a Cultura". <http://www.onu.org.br/onu-no-brasil/unesco/>. [Last accessed: 14/06/2014].