ICOA968: CULTURAL HERITAGE AND DIGITAL RESOURCES. WHEN VIRTUAL MATERIALIZES VALUES AND MEANINGS

Subtheme 03: Protecting and Interpreting Cultural Heritage in the Age of Digital Empowerment

Session 1: Relevance of Digital Tools & Technology in Documentation, Conservation and Safeguarding of Heritage & Community Engagement
Location: Silver Oak 2, India Habitat Centre
Time: December 13, 2017, 14:45 – 15:00

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Abstract: Digital resources have a significant role in the contemporary world, in many fields of urban and cultural heritage studies, being an efficient and quick tool for documentation, processing and interpretation of data. The researches carried out by the Laboratório de Estudos do Patrimônio (EAU/UFF) aim for the enlargement of the analysis in preservation and conservation of the built heritage, through practical experimentation in the interpretation of data and production of digital reconstruction models. In this paper we present the approach of lost and transformed urban realities in Brazil, accentuating the impact of the digital technology in this problematic, under biases of theoretical and practical contributions.

The challenge is to delineate points of methodological convergence between a significant set of primary sources (with textual and iconographic substrate) and their conversion into digital models.

For the Brazilian reality, the research contributes with the process of memory construction in a more reliable way, directed to the filling of documentary gaps.

As objects of lost memory, we studied small-scale cities in the state of São Paulo, that formed an important network of coffee production in the 19th century, led to economic decline by soil exhaustion and abolition of slavery.

It is suggested, therefore, from these studies, that the use of digital technologies is an alternative to the reconstruction of collective memory and also a way of disseminating and accessing knowledge. At a time when technology encourages us to connect, we seek to contribute to a greater interaction and perspectives that awaken interests for the preservation and conservation of our cultural heritage.

The history of the region of the Paraíba do Sul River Valley – Brazil

The history of the region of the Paraíba do Sul Valley, where the town of Areias is located, is mixed with the History of Brazil. This region participated in all the important phases of the economic cycles through which Brazil passed – the so called "Entradas", the mining, the coffee cycle - and the industrialization of the country.

According to Mendonça (2010), the history of the Paraíba Valley has two phases: exploration and conquest; the first phase – Exploration- when incursions were made for capture of Indians to work in the village of São Paulo; the second phase – Conquest- when families were settled, and it was necessary to keep the region populated by the continuous movement of men in the regions of São Paulo, Rio de Janeiro and the mining areas, also maintaining the presence of men allied with the Portuguese against the invasions of other Europeans (French and Dutch, mainly). The Paraíba do Sul River Valley was one of the first interior regions of Brazil to be populated, and as early as 1645. It is a link between producing regions - Minas Gerais, the city of Rio de Janeiro (future headquarters of the colony and capital of the Brazilian Empire) and São Paulo.

In the following years, the increase of population and the search for minerals in the region of Minas Gerais promoted the formation of cities throughout the Paraíba do Sul valley (between the valley and the coast). The old villages became troop supply points and overnight stops, which soon formed a network of villages and towns along the paths that linked mining-producing centres of Minas Gerais and coastal cities. The so-called "Tropeiros" were the link between interior and coastal towns where minerals and other goods were stocked for exportation to Europe[1].

The economy of the region between the sixteenth and eighteenth centuries was at first based on sugar cane plantations with sugar mills in towns that produced sugar and "cachaça", a type of brandy. With the arrival of coffee in the late seventeenth century, the region was transformed with the fall of forests and

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[1]Algatão, 2010; Maia and Maia, 1981.

opening of new routes. Coffee plantations occupied primarily the region that borders Rio de Janeiro State: the municipalities of Bananal, Areias and Silveiras. Brazil provided eighty percent of all coffee consumed in the world in 1915[2]. In the last quarter of the nineteenth century, the agriculture practiced without technique and the extensive use of the land exhausted the soil in the valley of the Paraíba do Sul River.

However, coffee, which until then was the main Brazilian product, goes to other regions. It was the "March to the West" of coffee cultivation: farms located at new areas with better conditions to cultivate coffee.[3]

Prohibition of the slave trade and abolition of slavery are the final blow to the great valley farmers. With the collapse of coffee, farm owners began to transform coffee production into livestock and agriculture to support valley towns[4].

Areias Town: Space, time and heritage

The stigma of the coffee period - apogee and decline – is still present in the region. The coffee crop, one of the great responsible for the near extinction of the Atlantic Forest, produced great fortunes that, over a period of approximately half a century, consumed wildly the natural resources of the region[5]. The coffee farms of the nineteenth century made up the great national economic system that integrated decentralized centres generating wealth. Some of these farms have managed to reach the present day as a record of a society that was based on the construction of architectural icons that sought to import from Europe an apparent cultural polish, but above all, as a highly explorative model without planned investment for the wealth generated through an exclusive economic activity.

In the Paraíba River Valley there is a sequence of cities installed on the banks of the old road travelled by the tropeiros that very well witnesses the consolidation of the urban network in this region. The city of Areias is part of this circuit (Figure 1). With architecture and traces remaining of the nineteenth century urban expansion, the historic centre of the city of Areias is rich in historical records, from the monumental scale of the Church of Sant'Anna to the building that housed the emperor Pedro I in the trip in which he would proclaim the independence of the country on the margins of the Ipiranga River. Areias was also the city that in the early years of the twentieth century welcomed the writer Monteiro Lobato. Areias, as well as the cities of Bananal, Arapeí, São José do Barreiro and Silveiras, were excellent laboratories for his book of short stories "*As Cidades Mortas*" [Dead Cities-1919]. It is an accurate portrait of the post- coffee cycle economic stagnation experienced by the cities of the Paraíba Valley Region: "There everything was, nothing is. No verbs are conjugated in the present. Everything is past tense"[6]. In a letter written in 1911, Lobato writes: "Areias, a type of former city, with fallen majesty. The population of Areias today lives on what Areias was. They flee from the anaemia of the present through an eternal immersion in the past"[7].

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[2]Holoway, 1978.
[3]PradoJunior, 2006.
[4]Cronenberg and Teixeira, 2004.
[5]Dean, 1996.
[6]Lobato, 2009.
[7]Azevedo, Camargos and Sacchetta, 1997.

Fig.1– The City of Areias was developed in the middle of valleys (Google Earth)

Still under the nickname of "dead cities", this incipient urban network was still able to survive due to its position in the national urban scene: it was located on the banks of the Tropeiros Highway, the only link between the major urban centres, the cities of São Paulo and Rio de Janeiro, then capital of the Republic. The second shock was to come in the 1950s, with the opening of the Presidente Dutra Highway, further along the Paraíba do Sul River, to be the main road link between the two largest Brazilian cities. As a result, Areias and the other four dead cities of Lobato entered into a kind of economic ostracism, which in turn was responsible for the freezing of urban real estate dynamics and the maintenance of social relations intrinsically linked to the preserved scale of the city.

The city of Areias, with two thousand, four hundred and seventy eight inhabitants[8], has its economy based on agriculture, livestock and commerce. There are fairs and touristic events annually that using the great potential of the naturally preserved ambience of the city's eighteenth century features.

The theoretical and methodological approaches

The first studies in the area pointed out that these cities are still alive considering: the material memory, the architectural sets, the historical and artistic values, the urban morphology and the great relationship between the cities and the landscape. It was necessary to select one of the cities for the application of a new way of looking at it, as an experimental field to access certain subjective intrinsic valuations.

The city of Areais was chosen for presenting the historical importance, the conservation of heritage assets, the small urban scale allowing their registry and a complete easy design of the places that carry a heritage meaning. Most important, our laboratory is interested in studying other ways to preserve the cultural heritage and this city is preserved without any regulations. The material preservation of cultural assets occurs without the imposition of specific norms or regulations.

Before the fieldwork, contacts with local government were important to identify local community agents as well as the demands in terms of practices and management and planning, identification of symbolical landmarks of the city and targeting those landmarks in a map.

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[8]IBGE, 2010.

Areias buildings with their deployments, volumetries, rhythms and construction techniques constitute a mark of Brazilian culture, which should be recognized and valued, in spite of the regular context of valuation of monumental buildings, related to scholarly architecture.

The significance of an object is the validation process by a society, as a construction element of their collective memory and identity. Through this representative extract, we seek to understand what are the effects respecting the valuation identities and symbolic images frame. The work of representing the cultural heritage using digital resources was divided in two procedures: survey and production of imaging material (photographic records and videos with drone- figure 2) and prototyping with photogrammetry using softwares with free license. Symbolical elements of local heritage were mapped, in order to choose the buildings to be represented in three dimensions (3D). This choice had the help from the local community and resulted in two prototypes: *Casa da Cultura* (House of Culture- figure 3) and *Igreja de Sant'Anna* (Church of Sant'Anna- figure 4).
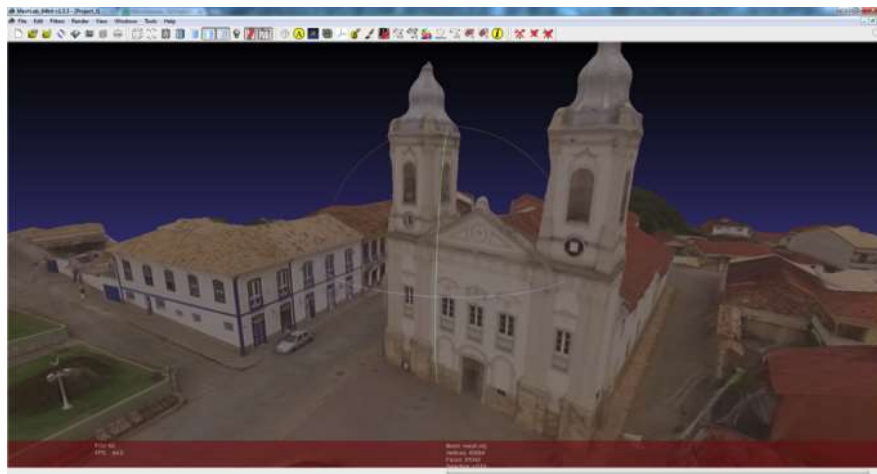
More than visual landmarks and landscape construction marks, these Areias cultural assets represent religious habits and festivities of the city, establishing affective bonds with the local community. The community's link with the site denotes the construction of a cultural identity, which, in this specific case, guaranteed, through a non-governmental initiative, the preservation of the local cultural heritage. We therefore seek to identify the values involved in this process in order to contribute to the current

discussion of preservation practices in Brazil using technology as an interaction and display tool, but fundamentally as a practical, objective and realistic way of awakening the subjectivities and values that surround the field of cultural heritage.

Contributions of the use of technology in the construction of values and meanings

Digital resources have a significant role in contemporary world, in many fields of urban and cultural heritage studies, being an efficient and quick tool for documentation, processing and interpretation of data. The researches carried by the "*Laboratório de Estudos do Patrimônio*" (EAU/UFF/Brasil) aim the enlargement of the analysis in preservation and conservation of the built heritage, through practical experimentation in the interpretation of data and production of digital reconstruction models.

In this paper we present the approach of lost and transformed urban realities in Brazil, accentuating the impact of the digital technology in this problematic, under biases of theoretical and practical contributions. The challenge is to delineate points of methodological convergence between a significant set of primary sources (with textual and iconographic substrate) and their conversion into digital models for the Brazilian reality. By using the softwares with free license, our main goal is to make this technique available to the community and the city council as management tool of their heritage and help the possible development in those areas.

The research contributes with the process of memory construction in a more reliable way, directed to the filling of documentary gaps. As objects of lost memory, we studied small-scale cities in the state of São Paulo that formed an important network of coffee production in the nineteenth century, led to economic decline by soil exhaustion and abolition of slavery. It is suggested from these studies that the use of digital technologies is an alternative to the reconstruction of collective memory, and a way to disseminating and accessing knowledge. At a time when technology encourages us to connect, we seek to contribute to a greater interaction and perspectives that awaken interests for the preservation and conservation of our cultural heritage.

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Sous-thème 03: Protéger et interpréter le patrimoine culturel à l'ère de l'autonomisation numérique

Session 1: Pertinence des outils numériques et de la technologie dans la documentation, la conservation et la sauvegarde du patrimoine et l'engagement communautaire
Lieu: Silver Oak 2, India Habitat Centre
Date et heure: 13 Décembre, 2017, 14:45 – 15:00

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Résumé: Les ressources numériques jouent un rôle important dans le monde contemporain, dans de nombreux domaines deśtudes du patrimoine urbain et culturel. Elles sont un outil efficace et rapide pour la documentation, le traitement et l'interprétation des données. Les recherches menées par le Laboratório de Estudos do Patrimônio (EAU / UFF) visent à élargir l'analyse de la préservation et de la conservation du patrimoine bâti, par l'expérimentation pratique de l'interprétation des données et la production de modèles de reconstruction numérique. Dans cet article, nous présentons l'approche de réalités urbaines perdues et transformées au Brésil, en accentuant l'impact de la technologie numérique dans cette problématique, sous l'angle de contributions théoriques et pratiques.

L'enjeu est de délimiter les points de convergence méthodologique entre un ensemble significatif de sources primaires (avec des couches textuelles et iconographiques) et leur conversion en modèles numériques

Pour la réalité brésilienne, la recherche contribue au processus de construction de la mémoire d'une manière plus fiable, dans le but de combler des lacunes documentaires.

En tant qu'objets de mémoire perdue, nous avons étudié de petites villes de l'État de São Paulo, qui formaient un important réseau de production de café au XIXe siècle, qui connurent un déclin économique dû à l'épuisement des sols et à l'abolition de l'esclavage.

Il est donc suggéré, à partir de ces études, que l'utilisation des technologies numériques est une alternative à la reconstruction de la mémoire collective et aussi un moyen de diffuser et d'accéder aux connaissances. À une époque où la technologie nous encourage à nous connecter, nous cherchons à

contribuer à une plus grande interaction et à des perspectives qui suscitent de l'intérêt pour la préservation et la conservation de notre patrimoine culturel.