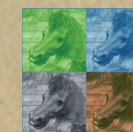


Intangibility Matters  
International Conference on the  
values of tangible heritage



IPERION CH

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International Conference  
on the values of tangible heritage

**IMaTTe 2017**

Proceedings

**IMaTTe 2017**

Lisbon, LNEC  
May 29-30, 2017

**Editors**

Marluci Menezes  
Dória Rodrigues Costa  
José Delgado Rodrigues

AV DO BRASIL 101 • 1700-066 LISBOA • PORTUGAL  
tel. (+351) 21 844 30 00 • fax (+351) 21 844 30 11  
lnecl@lnecl.pt [www.lnecl.pt](http://www.lnecl.pt)



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## PREFACE

Tangible heritage is the support of some of the most relevant and perennial values of Mankind. It connects us with History, projects us to past environments and to lost cultural contexts, includes landmarks of our identity and constitute relevant economic assets. Therefore tangible heritage has intangible aspects inextricably associated to it, and the whole must be dealt with as a binomial entity. In short, when tangible heritage is addressed, intangibility matters.

Conservation of tangible heritage is a cultural act, and has the problematic of value as a leading concept. The protection statutes, the arguments used to sustain the protection policies, the management options and definition of priorities, the allocation of resources and the exploitation of assets are intimately linked and dependent on values and, thus, of an intangible nature.

Intangibility Matters, the IPERION CH International Conference on the values of tangible heritage – IMaTTe 2017 aims at offering a discussion forum for scientists and other professionals working on the Cultural Heritage field about the intangible aspects of tangible cultural heritage assets.

LNEC, Laboratório Nacional de Engenharia Civil, organized this Conference as part of its activities within the IPERION CH partnership and welcomes all those who in the following days will discuss the intangible aspects of monuments and tangible cultural heritage in general.

José Delgado Rodrigues

João Manuel Mimoso

Marluci Menezes



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# THE VALUES OF DISSONANT HERITAGE: HOW TO MANAGE THE LEGACY OF NAZISM AND OTHERS DICTATORSHIPS, A CHALLENGE FOR THE PRESENT

**Ascensión Hernández Martínez**

Professor, Departamento de Historia del Arte, Facultad de Filosofía y Letras, Universidad de Zaragoza, C/Pedro Cerbuna 12, 50009 Zaragoza (Spain), ashernan@unizar.es

## **ABSTRACT**

The conservation of the Nazi architecture challenges European society since its buildings (public and military, concentration camps, cemeteries and battlegrounds) are linked to traumatic events which, however, must be preserved because of their historical value without legitimating their ideology. This paper attempts to analyze the concept of dissonant heritage by the survey of the interventions on several buildings built by Nazism, and to reflect on the blurring of the fingerprint of this ideology. The challenge is to preserve history without forgetting the pain, but taking advantage of its potential to make society aware of such events and use them in a pacific and constructive way.

Keywords: Nazism / Dissonant heritage / Restoration / Nuremberg / Bunkers

## **1 INTRODUCTION**

The spreading of the concept of *heritage* has led to the inclusion of places and buildings linked to painful episodes which, however, must be preserved due to their historical value. Places like concentration camps, bunkers, cemeteries, landscapes and battlegrounds belong to this category. This has been called “dissonant heritage” and it may enclose social and identity values, even artistic and architectonic, in addition to the historical one. The problem arises when dealing with it from the heritage point of view (that is, how to preserve, how to restore, how to use and present to society these listed cultural assets protected by national and international laws) without approving of the ideologies that built it.

As the German historian Gabi Dolff-Bonekämper suggests, considering these places as heritage assets raises a series of basic questions.

“Most would agree on the positive impact of cultural heritage preservation. However, there are those buildings and sites that may not be included in local history and topography because they convey memories of events that some prefer to forget. The issue of preserving sites of hurtful memory prompts three fundamental questions: Why should places be preserved if they offend the feelings of people who do not wish to be reminded? What kind of information do they convey that is not already available in other forms? And why and how should these places be dealt with as material heritage to be conserved?” (Dolff-Bonekämper, 2002).

## 2 NAZI ARCHITECTURE, AN EXAMPLE OF DISSONANT HERITAGE

### 2.1 THE CONCEPT OF DISSONANT HERITAGE

Precisely, Nazi architecture and the different objects linked to this period represent the prototype of dissonant heritage, a concept formulated some years ago which refer to those remains of painful remembrance and somehow problematic in present days. This heritage we find in Germany and other European countries such as Austria and all the European Atlantic front, marked by the Nazi traces, represents a challenge for contemporary European society in many respects. First of all, because its designation as heritage may imply a positive value, a kind of legitimation of the past, especially complex in Hitler's case, whose idea was to build a thousand-year-lasting system, a regime that provoked a devastating war conflict. On the other hand, this legacy reminds the permissiveness and connivance of society regarding Nazism. Therefore, this heritage urges us to question ourselves if its values can be objectively evaluated notwithstanding the ideology that created and accompanies it permanently.

One of the first researchers to tackle these questions is the British anthropologist Sharon Macdonald, author of a relevant study on the conservation of the Nazi legacy in Nuremberg, who has cogitated about dissonant heritage and collective identities from an anthropological point of view (Macdonald, 2008). Macdonald states that prideful historical events such as colonialism, wars or even slavery, may be socially painful and conflictive today. She also points out the way heritage has traditionally been used to materialize, create (and also destroy) the identity of a society (remember the recent destruction of archaeological sites by ISIS), and in this way the elimination or the restoration/preservation of dissonant heritage may be used to redesign the identity of society. This is a very complex matter but with different positive aspects since, according to Macdonald, this kind of heritage may surpass historical events in order to reflect on nowadays deeper moral questions.

Other researches such as the cultural geographers Tunbridge and Asworth, have used the term 'dissonant heritage' to express the uneasiness linked to some kind of heritage (for instance, Nazi concentration camps), because of its unavoidable emotional impact. (Tunbridge y Asworth, 1996).

All these authors point out to some interesting aspects regarding dissonant heritage. First of all, to turn these places into museums may in some ways provoke admiration and sympathy towards the ideology attached to them, turning them into possible shrines for some fanatic extremists (the rise of Fascism in Europe has to be taken into account). May a museum sacralize an ideology? So, the legacy of Nazism (and that of the rest of European totalitarianisms) challenges contemporary society, since its unquestionable place in history and collective memory has to be recognized but, at the same time, its sacralization must be prevented.

### 2.2 NAZISM'S WILLINGNESS TO BE PRESENT

Hitler insisted on building a really National-Socialist architecture, in order to represent and exacerbate German nationalism, completely opposed to the unified and homogeneous modern style represented by Bauhaus, linked besides to the Jewish and Bolshevik materialism, which threatened, according to Hitler, the spirit of the nation. The House of German Art (*Haus der Deutschen Kunst*), in Munich, is one of the first

instances of his insistence (Brantl, 2007):

As it has been collected from Speer's memoirs written in 1969, with whom he kept a very close friendship, "Hitler liked to say that the purpose of his building was to transmit his time and its spirit to posterity. Ultimately, all that remained to remind men of the great epochs of history was their monumental architecture, he would philosophize. What had remained of the emperors of Rome? What would still bear witness to them today, if their buildings had not survived? (...) Our architectural work should also speak to the conscience of a future Germany centuries from now" (Speer, 1966: 55)

Besides, he thought that the magnificence of the Nazi buildings talk of the dimensions of the German people. As is stated again by Speer: "Why always the biggest? I do this to restore to each individual German his self-respect. In a hundred areas I want to say to the individual: We are not inferior, on the contrary, we are the complete equals of every other nation" (Speer, 1966: 69).

### 2.3 THE FALL OF NAZISM AND THE DESTINY OF ITS ARCHITECTONIC LEGACY

In the aftermath of war, the German authorities tried to blur the memory of the Third Reich pulling its buildings down, setting aside the monuments for the dead soldiers and the bombed cities, where civilians had suffered severely (Dolff-Bonekämper, 2002: 7). At the same time, a series of debates took place. Two options were being considered before the destruction of the country: construction (*Aufbau*) and reconstruction (*Wiederaufbau*). The reconstruction advocates, that is, the turning to the physical state before the war, saw a clear parallelism between the physical and moral reconstruction of the country; but this offered, at the same time, different attitudes : mimesis (reconstruction of Goethe's house in Frankfurt, the selection of historical layers by the selective destruction of some buildings (demolition of the Schlosspalast in Berlin) or the introduction of contemporary languages in the ruins (Kaiser Wilhelm Memorial Church in Berlin) (Dölling, 1974). Regarding Nazi architecture, an important part of it had already disappeared during the war (Chancellery Building, Berlin), another part was blown out in a few years, and the rest was seized by some kind of amnesia, as a result of the 'denazification' imposed by the Postdam Conference in 1949, which established the division of Germany into two zones of influence and into two countries (FRG and DRG), ruled by demilitarization democratization and decentralization.

The 1950s were years of repression, trauma and oblivion. A critical wave charged with generational conflict arose in the 1960s. Reaction in the two republics was not the same. In the DRG the communist government decided to literally erase the downtown of Berlin, including the traces of the military Prussian Empire as the demolition of the Royal Palace (*Stadtschloss*) in 1950 proves. A series of buildings represent the new political and social center built in its site, emblematic of the communist government's power, which included the People's Palace, the Government and the Foreign Affairs Ministry (Hernández, 2013a; Hernández, 2015). Paradoxically this space has been radically altered after the reunification, provoking a conflict to a part of the citizens of Berlin, East Berliners, who has suffered the loss of an important part of their collective memory.

The situation did not change until the 1970s, when the first German laws on heritage were passed. In 1973 the *Land* of Bavaria, where Nuremberg is located, passed the Law for the Protection of Monuments including for the first time the listing as heritage

of the Nazi architecture (especially Nuremberg's buildings) because of its historical value as example of colossal Nazi architecture and its symbolic value as a witness of the past. The fact of considering these buildings as heritage made evident a new look towards the past, especially in the face of those Germans who would have preferred oblivion. This decision had, besides, clear consequences, since the listing of the Nazi architecture as heritage implied, not only the prohibition to demolish it, but its preservation and restoration by the state.

In the 1980s the possibility of its restoration was raised due to the deterioration of the Nazi buildings, among them the remains of the city for congresses in Nuremberg. This question provoked fierce debates. On the one hand, the moral question was brought of expending money in the preservation of the traces of Nazism, despite the possible mythification those ruins might have supposed to the visitors. The Nuremberg question (extensible to the rest of the German Nazi architecture) was the risk of linking in the collective subconscious the image of the preserved legacy to almost exclusively this historical period. As was stated in the newspaper *Süddeutsche Zeitung*: "The question facing Nuremberg, then, is a sticky one, touching on a dilemma that bridges history, national identity, and architectural preservation: Does spending millions of Euros to preserve the rally grounds upset the delicate balance between memorialising and glorification of the past?" (Campbell-Dollaghan, 2013)

One of the possible answers to this question was the banalization of heritage, the deactivation of the ideological charge in the Nazi constructions by means of a calculated desertion of the buildings or by their use as leisure or sport facilities. This concept was coined by Hermann Glaser, an historian and social-democrat politician who suggested to leave these buildings in a somehow rejected state, using them in a way they were never designed for (Macdonald, 2008). If Nazis had created an almost sacred place, to use these buildings in a banal way for daily life activities on the antipodes of the Nazi ceremonial that accompanied them in the beginning, will serve to deny and forget that ideology which inspired them. This is another way to defuse the heritage, that coincides in a way with the using of bunkers as art venues, that we will see below, or with the transformation of Tempelhof airport in Berlin into a huge leisure zone.

At the end of the 20th century, the reunification of Germany arose new questions to the recent history of the country, more critical and less complacent analysis which provoked a burst of memory sites and commemoration such as the Monument to the Holocaust (*Holocaust-Mahnmal*) in Berlin, designed by the architect Peter Eisenman inaugurated in 2005. The restoration of the Neues Museum by David Chipperfield and Julian Harrap inaugurated in 2009, where the traces of the destruction of the Second World War have been preserved I (Hernández, 2013b), is another instance of this new attitude towards the past that decisively is not going to forget what happened.

## 2.4 DIFFERENT RESPONSES TO THE PROBLEM OF THE NAZI ARCHITECTURE

### 2.4.1 To preserve to remember

According to the preceding questions, what must be the attitude towards this legacy? Ignorance, oblivion, banalization? Another possible answer is the information and education as tools to fight the amnesia which would help these events to happen

again. In this respect, the inauguration in 2001 of the centre for the documentation of the history of the Nazi party in the Congress Hall (*Kongresshalle*) in Nuremberg and that of the documentary centre Topography of Terror (*Topographie des Terrors*) in Berlin in 2010, are two important examples of this attitude and of the determination of the reunited Germany to show the differences between the Germany of the past and that of today, telling the events in a “consciously historical” way, including the problems this entails.

In the first case, the *Kongresshalle* of Nuremberg was the main building in *the city of congresses* designed by the German architect Albert Speer to hold the great Nazi rallies. Neglected since 1945, the building remained deserted due to the uncertainty of its use. Despite of its being listed as Historical Monument in 1973, its demolition was posed, as well as its transformation into a sport centre, even in 1987, the project for a mall in its premises was produced, an idea debated and rejected in a heated debate. Eventually, in 1994, a centre for documentation for the history of the Nazi party was built in its North wing. The project of the refurbishment was developed by the Austrian architect Günther Domenig, who won the tender in 1998. (Brooker+Stone, 2008: 110-111). The architectonic shape, a kind of crystal and steel arrow or thunder that goes through and out of the building, somehow denies it according to the critics, is for its creators “an unequivocal and powerful assertion about repentance and memory”. The inner part of the building remains a ruin, the walls unrestored. The centre hosts the permanent exhibition *Fascination and Terror*, which “critically confronts the history of the Nazi party from the very town where racial laws were enacted “a (Krauthausen, 2001).

Regarding the second example, *Topographie des Terrors* is a memorial built on the site formerly occupied by the three major totalitarian institutions of Nazi apparatus (Secret State Police, the SS and the Reich Security Main Office), a place loaded with atrocious memories and destroyed after the war. In 1985 an excavation brought forth the remains of a basement containing kitchens and guard posts. This discovery opened in the heart of Berlin a big wound, a memory that had been removed from the minds and eyes had re-emerged. Today, this place is home to the documentation centre ‘Topography of Terror’ which includes historical documentation archives, a large public library and a permanent exhibition. The project was realised by a 2006 competition won by Ursula Wilms and the Landscape Architect Heinz W. Hallmann. (Bassanelli y Gennaro, 2013).

#### 2.4.2 To reuse to forget

Another attitude has been that of reusing the buildings, transforming them by means of new uses in order to alleviate or forget their history. A significant example is the use today as a leisure facility of the famous Zeppelin Tribune (*Zeppelin Tribüne*) designed by the architect Albert Speer in 1934, a big building integrated by a 360-metre-long tribune and a huge area for military rallies and party meetings (it could host 240.000 people) in Nuremberg. It was partly blown out by the Allies in 1945, at the end of the 60s the furthest wings were demolished due to structural reasons and the inner part was restored in the 1990s (Golden Hall), to use it as a cultural venue. In 2013 the bad condition of the tribune arose another discussion since its restoration required a 70 million euros investment. An amount that made some professionals, among them the architect Josef Reindl, to wonder if Germans really wanted to use public money to keep the Nazi legacy. On his behalf, the social-democrat politician Ulrich Maly, then the mayor of the city, defended the project supported by the conservative party CSU, considering the Tribune should remain “a place to know history”(Sánchez, 2013).



However, the points against restoration of this building suggested that “its expiring date”, even a possible “controlled ruin” might symbolize the way the Nazi regime morally ruined Germany, as an effective element for historical learning” (Sánchez, 2013). Today, this site where Hitler proclaimed the *1000-year Reich*, is used as venue for rock concerts and car racing track.

In other instances, Nazi buildings have been reused according to their possibilities, leaving aside ideology and the historical circumstances surrounding them. In Hamburg, for instance, a bunker has been transformed into a renewable energy plant, whereas in Vienna another one has been turned into an aquarium (Bassanelli and Postiglione, 2013: 10), new uses that mean important formal changes in the buildings (in Hamburg a new and spectacular roof has been placed, and in Vienna the front wall has been opened by an attached glass body) which manifest their new *life*.

There is, lastly, a way related to the introduction of contemporary art as shown by different cases of bunkers transformed into contemporary art galleries in Berlin and Vienna (Hernández, 2015). The first example was the *Contemporary Art Tower (CAT)*, in Vienna, one of the six anti-air defensive towers (*Flaktürme*) built by the architect Friedrich Tramms, one of Albert Speer's collaborators, during the Second World War. These reinforced concrete towers, remarkable feats from a constructive point of view, were strategically disposed by pairs (one radar tower and one artillery tower), two in Hamburg, and three in Vienna, conforming a Nazi military system to defend the cities from the allied blitzes. (Foedrowitz, 1998). In the case of Vienna, the two towers are listed as monuments and belong to both the Austrian government and the city of Vienna. They are the only ones of this typology in Austria and Germany that have remained unaltered up to now, hence their importance.

In 1994, Peter Noever, director of the *Österreichisches Museum für angewandte Kunst/Gegenwartskunst*, MAK, asked the state to use one of the unused towers as a warehouse for its contemporary art collection. The next step was to invite contemporary artists to transform the building and let the public visit it. For that purpose nothing was done in the inside. The building remains as it was on its origins, but a few small interventions (light and doorways) to facilitate the visit (Hernández, 2015). This is a pioneer initiative in the world to show contemporary art in a singular context, aiming at the same time to confront in a different way the relationship between local population and an element linked to a decisive historical event that causes a painful and unavoidable memory (Jadonzinska, 2011). That contemporary art may help tame the undesirable legacy of the Second World War is another question, as Liane Lefaivre points out: “Can a Nazi building be recycled as an art center without banalizing history, particularly in a city like Vienna, which is so famously amnesic about its Nazi past?” (Lefaivre, 2001: 62), and the Austrian architect Markus Berger: “Can these towers be converted to new use or are they in a category of their own that is intrinsically inconvertible?” (Berger, 2011: 90).

A similar development was planned in Berlin in 2008, when the *Boros Collection* was inaugurated. The project, realized by the Berlin studio *Realarhitektur*, aimed the transformation of the Nazi bunker built in 1942 in a private museum with a luxury 450 m<sup>2</sup> penthouse (Kapplinger, 2008). In this case a deep refurbishment of this military building was required, removing important parts of the building in order to adapt it to exhibit the contemporary art collection of the publicist Christian Boros.

The project was remarkably successful. Critics of *The New York Times* have described it as “a space that will have no rivals in its idiosyncrasy”, “one of the capital's most extreme examples of its assets” (Tzortzis, 2007) “a milestone in the city” (Eddy, 2012);

being similar to what happened in the German press: “a place with a turbulent history, now lavishly remodelled as a showplace for art” (Nusser, 2013).

Despite the general applause, these enterprises may give rise to some suspicion. No doubt, these projects have many advantages from the point of view of international cultural tourism, but the key question is (further beyond the respect of these interventions to the buildings’ historic values, which is also relevant) the memory of a site can be radically erased by a new use or if *Boros Collection* represents the ego of a customer ignorant or indifferent to the historical value of the building, as the German architect Norbert Sachs suggests: “It has been debated whether the project, satisfying the appetite of a public demanding unique, dramatic spaces with entertaining narrative is the statement of a bloated client’s ego with little reference to and understanding for the significance of the site as a historic document. Perhaps it is simply an outstanding project displaying talented work by the architects. It is for the visitor to decide. It does, however, raise questions about the state of society.” (Sachs, 2011: 21).

The Boros Collection is not the only example in Berlin, but it has become a trend. A few months ago, in October 2016, the *Feuerle Collection* of Asian Art and Contemporary Art was inaugurated in the former telecommunication bunker, adapted by the British architect John Pawson, who considers it the most suitable place to create a new aesthetic perspective for the works of art. (Rieger, 2016).

### 3 CONCLUSIONS

The remains of the Nazi architecture pose an ethical dilemma (to preserve or erase the tangible traces of war), since these painful remnants are already a part of the collective memory.

The analysis of the examples mentioned above makes clear the difficulty to conciliate the past, present and future of dissonant heritage, which we cannot deny since history cannot be forgiven, no matter how traumatic it is. However, the European society must carry on building a pacific future where events as Nazism and the Second World War may not be repeated.

To preserve these monuments so unusual due to different reasons is a challenge to us, since they must be transmitted to our descendants but not as mere consumer products (as is the case with other cultural heritage goods) where new functions blur their memory and their historical and cultural values and turn them into design objects for some cultural elites.

Perhaps contemporary art and other artistic practices, music among them, may represent a hope as long as the introduction of the new functions do not mean a radical transformation of the architectonic structures, sacrificed in the name of the artists’ necessities or the owners’ a-la-mode taste, nor the erasing of the historic and documentary values deposited in the buildings.

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## DEVELOPING VALUE

**Agnes W. Brokerhof<sup>1\*</sup>, Anna E. Bülow<sup>2</sup>, Janien Kemp<sup>3</sup>**

<sup>1</sup> Cultural Heritage Agency of the Netherlands, Hobbemastraat 22, 1071ZC Amsterdam, the Netherlands, [A.Brokerhof@cultureelerfgoed.nl](mailto:A.Brokerhof@cultureelerfgoed.nl) \*corresponding author

<sup>2</sup> British Museum, London, United Kingdom, [ABuelow@britishmuseum.org](mailto:ABuelow@britishmuseum.org)

<sup>3</sup> Amsterdam City Archives, Amsterdam, the Netherlands, [Janien.Kemp@amsterdam.nl](mailto:Janien.Kemp@amsterdam.nl)

### ABSTRACT

Over the past 25 years, preventive conservation has increasingly employed risk management techniques to guide decisions on resource allocation within collection management. Risk management focuses on reducing loss of value to collections. This paper introduces the concept of developing value as an equal choice in collection management, thus allowing collection management decisions to be made amongst a broader set of stakeholders bearing the potential for better buy-in for resource allocation. The concept of value assessment has been used to develop a framework for increasing such values. Within the framework, a number of 'development types' typically found in heritage collections are described. Once identified, options for developing value can be considered, weighed up against options for reducing value loss, and decided upon. Thus turning collection management into value management. This approach allows informed decision making and thus effective use of resources in an institution wide context.

Keywords: Value management / Significance / Collection management / Decision making

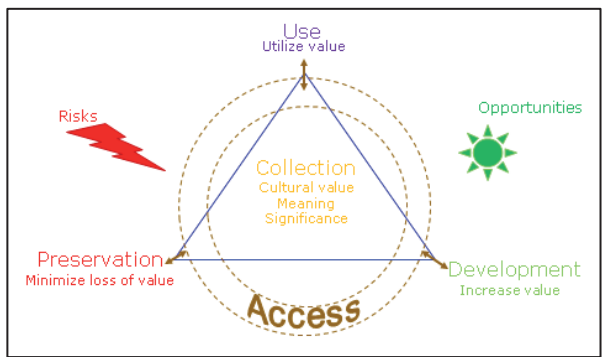
## 1 INTRODUCTION

Each collecting institution keeps a number of objects that have question marks; about their provenance, condition, completeness, rarity. A lump of dirt that could contain precious archaeological objects, a painting without signature that could be by a famous artist, a document that we cannot read in its current state but could contain interesting information when we create access to it. Such objects are kept in the hope that future study, cleaning or treatment may reveal a treasure. If assessed rationally, they currently do not have a high value. But they have potential value and with some effort that potential could be developed.

Collection management, or heritage management, can be defined as the process of making well-argued decisions about the allocation of resources to most effectively and efficiently achieve the heritage profession's objectives. The main objective is passing on the heritage that is given in our care to next generations with optimum significance, values and accessibility. The heritage management triangle distinguishes three main activities to achieve that goal: development, preservation and use. Not just of heritage assets but of the values we attribute to them (Fig. 1). Collection management is value management.

In the last decades methods have been developed to state the significance of heritage (Russel and Winkworth 2009), make the cultural values explicit (English Heritage 2008, Meul 2008, Reed 2012) and rank objects and collections based on their relative value (Luger et al. 2013). For the Preservation activity the concept of managing risks to

heritage was introduced in the 1990s and has since been taught and used within the sector across the globe (Antomarchi et al. 2014, Brokerhof and Bülow 2016). It has become a useful tool to rank and prioritise options to maintain cultural value or reduce the loss of value. Recently value assessment and risk assessment have been integrated into a method for value management (Kemp et al. 2015, Brokerhof et al. 2017). The *value management scan* weighs costs and benefits for preventing loss of value against those for increasing value. It does so through analysing structure and composition of the heritage asset, assessing its current attributes, values, accessibility and use. Subsequently, options for reducing loss of value, usually through preventive conservation, and gaining value, through research, restoration and increasing access, are assessed. Finally the return on investment for the various options is determined on the basis of 'value for money'. Thus investments in preservation can be compared with those in development and choices can be underpinned with strong arguments.



**Figure 1: Heritage management triangle**

In this approach developing value, increasing accessibility and enhancing use have been incorporated together with value assessment and risk management. However, while the concepts behind reducing loss of value have gotten a considerable amount of attention in the past decades, there is little work published on structured approaches to developing values and qualifying, let alone quantifying, gain of value. This paper describes the approach that is used in the value management scan in which developing value is an equal counterpart to reducing loss of value.

## 2 ASSESSING CURRENT VALUE AND IDENTIFYING POTENTIAL VALUE

Considering significance, values and potential for value development one typically asks questions like: Why are we keeping this? What is its significance? Which values do we attribute to it? How high are those values? Is there a possibility to increase values?

*Assessing Museum Collections; Collection valuation in six steps*, the value assessment method developed by the Cultural Heritage Agency of the Netherlands, helps collection keepers to underpin the values and significance of their objects and collections with arguments and even give them a ranking (Luger et al. 2013). An object or collection can be compared with others within a defined context. Values and significance can be made explicit using arguments from the evaluation against a standard set of criteria. The method distinguishes between attributes and value criteria. The attributes consider state and condition, completeness, provenance and rarity. These do not in themselves make something valuable, but can enhance value when they are good or attenuate

value when they are poor. Objects or collections can score 'good', 'average' or 'poor' for these attributes. The value criteria are divided into three clusters: cultural-historical (artistic, historic, information values), social and societal (contemporary societal and personal experience values) and utility and use (values related to the museum's business and its public). Objects or collection units can score 'high', 'medium' or 'low' for these criteria. In order to assess the assets consistently a value assessment framework needs to be drawn up first which defines for each criterion what makes an asset score 'high' or 'low', 'good' or 'poor'. Once the framework is available, the assessment can be made. Examples of frameworks can be found in Bülow et al. (2017) and Brokerhof et al. (2017).

The method also incorporates the possibility of making potential value explicit. By indicating how currently low scoring attributes and criteria might be improved and raised, it becomes evident what could be done to increase value. For each object or collection its current and best possible condition, value, accessibility, and use are compared. Value can be developed through restoration and conservation treatment: improving the condition may regain lost artistic or aesthetic value, may allow handling and use, or may make an object attractive for presentation again. Value can be gained through research and enriching the story of the objects; acquisition or de-accession can raise the value of a collection; improving accessibility through cataloguing, indexing, emulation, and digitisation can increase utility and hence use values; placing the collection in a bigger context, linking it with other collections makes it more interesting; promoting use and drawing a larger audience may improve reputation and image of the organisation.

### 3 DEVELOPING VALUE

To consistently assess value and potential for development it is important to understand the relationship between attributes and value criteria. Accessibility and attributes are value-neutral, they enhance or attenuate values. For example:

- An item in poor condition does not realize its artistic and aesthetic value and may need to be restored first before it can be used in exhibition.
- An item may be too fragile to be handled and needs to be strengthened first before it can be studied.
- A document with known provenance is a more reliable source of information than one of unknown or doubtful provenance. Hence it will have a higher utility value and may well be used more than the document without provenance.
- A document with unknown provenance of which we suspect it could be from an important person has, currently, a relatively low value, but it does have potential for development. By investing in research into its provenance the authority and credibility of the information source can be established and both information value and study value will be developed and the potential can be realized. Of course research can also establish that the source has little authority and the document may be less important than hoped for. In that case the low value of the documents is established.

Identification of potential for development requires us to consider what the maximum value of a heritage asset could be. If that is higher than the current assessment, there is room for development. The question then becomes which values can be increased and what needs to be done to do so. This requires a rational and critical assessment of current values. Assets with high values cannot have a high potential for development as well. Assets with low value may have low potential for development. 'It is nothing and it will never become anything'. The highest potential for development can be found










with assets that currently are assessed as low value but have a high maximum value.

## 4 DEVELOPMENT TYPES

To support the identification of potential for value gain a number of development types can be distinguished. Experience shows that thinking in terms of these types speaks to the imagination of stakeholders and makes the process easier (Peek 2015). Table 1 lists and describes the types that can be used. Here they are discussed and illustrated with examples from the Amsterdam City Archives, The British Museum and the Cultural Heritage Agency of the Netherlands. For reasons of clarity extremes good-bad, high-low are described but in reality there will be intermediate versions of these types as well. For example, apart from *Treasures* there may be objects with similar criteria scoring 'medium' that will not be considered an institution's treasure but good core collection.

**Table 1: Development types with their description. The current assessment (Now) is compared with the maximum possible assessment (Max) of attributes, accessibility, cultural-historical & social-societal values and utility & use**

Table 1. Development types with their description. The current assessment (Now) is compared with the maximum possible assessment (Max) of attributes, accessibility, cultural-historical & social-societal values and utility and use.

TYPE	Treasure		Sleeping beauty		Snow-white		Ugly duckling		Injured		Workhorse		Sleepier			
	Now	Max	Now	Max	Now	Max	Now	Max	Now	Max	Now	Max	Now	Max		
Attributes	Good	Good	Good	Good	Good	Good	Poor	Good	Poor	Good	Good	Good	Average	Average		
Cultural-historical & Social-societal values	High	High	High	High	High	High	Low	High	Low	High	Low	Low	Medium	Medium		
Accessibility	Good	Good	Good	Good	Poor	Good	Poor	Good	Good	Good	Good	Good	Average	Average		
Utility & Use	High	High	Low	High	Low	High	Low	High	Low	High	Medium	Medium	Low	Low		
Description	Objects in good state and highly valued, good accessibility and much used.		Objects in poor state and highly valued, good accessibility but not much used. Use can be improved.		Objects in good state and highly valued however accessibility is poor and therefore not much used. Accessibility needs to be improved to generate more use.		Objects in poor condition therefore lower value than possible. Poorly accessible and inoperative low use. All can be improved.		Objects in poor condition therefore lower value and use than possible despite good accessibility. Or content not accessible due to obsolescence.		Objects in good state and with good accessibility but low value and use for what it is worth. Higher valuation unlikely.		Objects in reasonable state with average accessibility. Medium value and low use which is not expected to increase soon. Reserve collection.		Objects in reasonable state with average accessibility. Medium value and low use which is not expected to increase soon. Reserve collection.	
Action	Reactively keep fit for purpose. Maintain success. No proactive investments required.		Proactively stay awake, invest in promotion to increase use. Reactively maintain attributes and accessibility.		Proactively free from glass cases, get apple out of threat and kiss awake. Invest in improving accessibility and promote use. Reactively keep fit for purpose.		Proactively transform into swan. Invest in improving attributes and accessibility to raise value and use.		Proactively improve attributes. Invest in conservation and restoration, digitization or emulation to improve utility.		Invest in promotion to increase use. Depreciate may be acceptable.		No investment required. Keep stable, might be altered off-site. Consider repurposing if value for organisation is low.		No investment required. Keep stable, might be altered off-site. Consider repurposing if value for organisation is low.	
																

### 4.1 TREASURES

Treasures, also referred to as 'toppers' or 'champions', score 'good' for the attributes, are in good condition, are valued 'high', their accessibility is good, and they are often used for education, study or display. Their scores cannot be improved much. There is little room for development and value gain. Most important for these objects or collections is that they be kept secure and fit for purpose.

The *Gayer-Anderson cat* is one of the British Museum's best known objects. It is on permanent display within Gallery 4, one of the most popular galleries within the museum. The object has been subject to extensive research both from a curatorial as well as scientific point of view (e.g. Spencer 2007, Ambers et al. 2008) and has been regularly requested for loan. Its popularity allows the museum not only to attract crowds into the galleries, but also to sell considerable merchandise relating to the cat (Fig. 2). There is little the museum can do to improve its value. The *Tolprivilege van Floris V* from 1275 is the most famous document of the Amsterdam City Archives. In this parchment document the name *Amsterdam* is written for the first time in history. The archives once had a request from a couple to marry in front of this important historic piece. The privilege has been shown in many exhibitions through the years and

it has been made accessible digitally (Amsterdam City Archives 2010). Still the public wants to see the real, original. Unfortunately the risk of light damage is high. Therefore, every year the archives exhibit this treasure for a few days in the treasure room. It is promoted as a big event and announced via the media to attract a large audience.

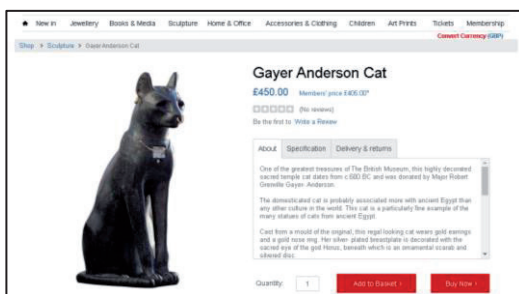


Figure 2: Screenshot of the British Museum website – replicas of the museum’s treasure, the Gayer-Anderson cat, for sale in the museum shop

#### 4.2 SLEEPING BEAUTIES

Sleeping beauties score good for the attributes, are in good condition, and considered to have high value. They are accessible but for some reason are not used. They need to be ‘kissed awake’ to enable their use. They require promotion, advertisement and marketing to develop their values (Fig. 3).



Figure 3: ‘Where might this object go?’ – the Cultural Heritage Agency of the Netherlands promotes Sleeping beauties in its quarterly magazine to find appropriate locations for use

The Cultural Heritage Agency of the Netherlands manages the state collection that is not kept in state museums. The treasures are already on loan to relevant museums. However, there are many objects that could go on loan to an appropriate context but are still in storage. They require promotion to potential borrowers. A historic house may be interested in a good chandelier of which they do not know it exists or in the painted portrait of a missing family member. The Agency actually has a dedicated member of staff as matchmaker between objects and possible locations for loan.

#### 4.3 SNOW-WHITES

Snow-whites have in common with the sleeping beauties that they are in good condition and of high value but low use, yet they need to be made accessible first to achieve use; they need to be liberated from their glass case. They require

improvement of accessibility and promotion to increase their values. The notary archive of Amsterdam takes up 3500 m of shelf in the repository. It is highly valued because of its unique information on the city and its inhabitants over many centuries. This 'mother of all archives' is poorly used because only a small part is catalogued. At present the Amsterdam City Archives are preparing a submission for it to become UNESCO World Heritage. A crowd sourcing project has started for large scale digitisation in which the public is asked to help with indexing the names and addresses. Once made accessible it is expected to be used very much.

#### 4.4 UGLY DUCKLINGS

Ugly ducklings have a high potential for development and the effort to develop them into swans may be worth it. They score poor for attributes and accessibility and, therefore, low for values and use. They require conservation or restoration treatment, research into their provenance or meaning, improved accessibility and promotion to varying degrees. Then they could become treasures.....

The British Museum holds in its collection a rare and magnificent *dastar boonga* turban which was worn by a group of Sikhs called *Akali Nihangs*. These skilled warriors used this type of turban to hold their daggers, swords and deadly throwing discs. Today the turban is worn as a symbolic representation of this tradition. The turban dates from the late 19th century and had come to London by the early 1900s. The original cloth was so fragile that it was unfit for display and thus had lost value. Members of the Sikh community together with the Museum's experts have reconstructed how it would have looked using traditional tying techniques and a new 37 metres of cloth. Following research and conservation of this turban, it first went onto display at the British Museum in April 2011, and has since travelled the UK, being displayed in local museums across the country. It is one of the most successful spotlight exhibitions the museum has put on show (British Museum 2011). The Amsterdam City Archives have a series of burned protocols (Fig. 4). They are in a poor condition, they cannot be handled or used without loss of material and there is no access to the text. Currently there is no method to restore them, yet they are kept safe in storage, waiting for the days that a conservation treatment or a scanning or imaging technique becomes available so that their valuable information can be disclosed and they can be used.



**Figure 4: Currently inaccessible information - burned protocol of the notary archive of Amsterdam (1669). Amsterdam City Archives. Foto: Janien Kemp**

#### 4.5 WORKHORSES

Workhorses may not have the highest value but their attributes and accessibility are

good and they are used a lot. They do much work for the collection and organization. There is not much room for improvement though, therefore they need general care to keep them fit for purpose.

The Amsterdam City Archives have well accessible and name-rich registers and 'Baptism-Marriage-Funeral books' that are extensively used by genealogists, the archive's largest visitor group, making their family trees. Not only are most of the records digitised and worldwide accessible, also special workshops and training programs stimulate the appreciation for these documents and the use by the clients. Within the context of the Amsterdam City Archives these documents form the core collections and are of medium value. They are workhorses that have all been scanned for use so that handling of the original paper documents is limited and the risk for damage low.

The British Museum dedicates one of its galleries to the exploration of daily life in ancient Greece and Rome (Gallery 69). The objects are displayed by themes, and the gallery is designed to support UK national education programs for 7-11 year olds, i.e. Key Stage 2. Possibilities for teaching about aspects of the gallery are available via the museum's website (British Museum no date). Gallery 69 is one of the museum's busiest galleries due to the daily presence of school classes. While some objects within this gallery show unusual aspects and might therefore be requested for loan on occasion, the majority of objects within this gallery is not of the highest value. These objects are true 'workhorses' for the museum as they attract high numbers of visitors, and frequently ignite children's interest in museums.

#### **4.6 INJURED**

Injured or 'bruised' have value and are accessible but the attributes score poor and therefore the use is low. They can be 'patched up' if they will never reach high value or use, or 'repaired' or 'restored' if more value and use can be regained. They just need to be made fit for use.

The Cultural Heritage Agency of the Netherlands has a large collection of furniture that is not unique but nice enough to be used in representative locations such as public offices and the embassies around the world. Accidents happen and they do get injured which means they cannot fulfil their function. If they are wanted, they are made fit for use again.

#### **4.7 SLEEPERS**

Assets that have good attributes and accessibility with low value and use often have little opportunity for further development. They may be good enough to keep in the collection with basic care. They can be kept asleep under appropriate conditions, good enough to keep them stable and fit for storage.

City archives in general are obliged by law to keep the records from the city's administration. They are important for anyone who seeks evidence in original, authentic documents. Archive laws are drawn up to protect such documents for loss and provide access to them for everyone. Many are not or hardly used, they are kept under safe conditions in the repositories.

## 5 OPPORTUNITIES FOR VALUE GAIN

Looking at the activities of collection management (Fig. 1) with these development types in mind, the main strategies for developing value revolve around improving attributes and accessibility to enhance the values at the core of the triangle, which in turn enhances utility which then leads to an increase of use values. Improving the value-neutral attributes and accessibility eventually leads to enhanced intrinsic values and instrumental values (Holden 2004). Four strategies can be distinguished:

- Improve attributes: restore condition, make fit for use, re-unite ensemble, establish rarity, thus enhancing cultural values and use.
- Increase value: indirectly through improved attributes and accessibility, directly through research into biography and through understand meaning.
- Increase accessibility: improve finding and retrieval processes, ensure users can be presented with the object or document, and make it more widely accessible in other formats, link to other assets and expand the context.
- Increase use: indirectly through improved attributes, accessibility and cultural values, directly through advertisement, promotion and marketing.

To be able to prioritize investments based on value gain or weigh possible gains against expected losses, such as done in the value management scan, the extent of value gain needs to be expressed in one way or another. It needs to be quantified or at least qualified. There are no absolute numbers to do this, but there are rules of thumb that have proven useful in practice. Fig. 5 shows what could be considered to be small, medium or large gains of value.

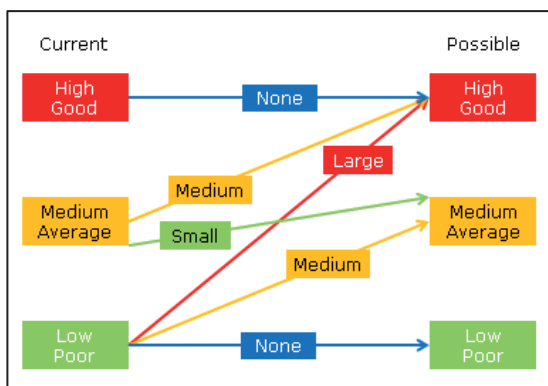


Figure 5: Rules of thumb for determining the extent of value gain

## 6 CONCLUSIONS

Thinking in terms of developing objects and collections as increasing their value, makes it possible to assess those activities on their merit by looking at how much value can be added. This is the positive equivalent of risks or possible loss of value. Being able to express the extent of loss and gain then allows managing value and ranking investments in preservation and development on the basis of their return on investment or value for money. Thus developing value becomes a step in the value management diamond.

The approach described in this paper has served well in value management projects at

the Amsterdam City Archives, The British Museum and the Cultural Heritage Agency of the Netherlands. Expressing and subsequently qualifying possible gain of value and development potential has helped determine priorities for investment and resource allocation for all three institutions. Both for the short and the long term. The approach is also used in decision-making for loans to both museum and less traditional non-museum venues.

Assessing current value and identifying potential value of objects or collection units in group discussions with different stakeholders in an organisation provides shared and often new insight in one's collection. The fact that staff and public sometimes attribute value totally differently can come as an eye-opener. Amsterdam's *Tolprivilege* for example has a very high value for the public, however some archive staff think it is an important document but rather boring. With all these different views a group can make well-considered decisions. When also the organisation's goals are taken into account the development types can be used to provide strong arguments to underpin management decisions.

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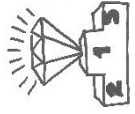






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TYPE	Treasure		Sleeping beauty		Snow-white		Ugly duckling		Injured		Workhorse		Sleeper	
	Now	Max	Now	Max	Now	Max	Now	Max	Now	Max	Now	Max	Now	Max
Attributes	Good	Good	Good	Good	Good	Good	Poor	Good	Poor	Good	Good	Good	Average	Average
Cultural-historical & Social-societal values	High	High	High	High	High	High	Low	High	Low	High	Low	Low	Medium	Medium
Accessibility	Good	Good	Good	Good	Poor	Good	Poor	Good	Good	Good	Good	Good	Average	Average
Utility & Use	High	High	Low	High	Low	High	Low	High	Low	High	Medium	Medium	Low	Low
Description	<p>Objects in good state and highly valued, good accessibility and much used.</p> <p>Objects in good state and highly valued however accessibility is poor and therefore not much used. Accessibility needs to be improved to generate more use.</p> <p>Objects in poor condition therefore lower value and use than possible despite good accessibility. Or content not accessible due to obsolescence.</p> <p>Objects in good state and with good accessibility but low value and used for what it is worth. Higher valuation unlikely. Collection for use, education collection.</p> <p>Objects in reasonable state with average accessibility. Medium value and low use which is not expected to increase soon. Reserve collection.</p>													
Action	<p>Reactively keep fit for purpose. Maintain success. No proactive investments required.</p> <p>Proactively kiss awake, invest in promotion to increase use. Reactively maintain attributes and accessibility.</p> <p>Proactively free from glass case, get apple out of throat and kiss awake. Invest in improving accessibility and promote use. Reactively keep fit for purpose.</p> <p>Proactively transform into swan. Invest in improving attributes and accessibility to raise value and use.</p> <p>Proactively improve attributes, invest in conservation and restoration, digitization or emulation to improve utility.</p> <p>Invest in promotion to increase use. Depletion may be acceptable.</p> <p>No investment required. Keep stable, might be stored off-site. Consider repurposing if value for organisation is low.</p>													
														





# AESTHETICS, UTILITY AND VALUES: A SYSTEMATIZATION OF GLAZED CERAMICS IN THE FAÇADES OF MODERNIST ARCHITECTURE

Catarina F.M. Gerales<sup>1</sup>, Alexandre N. Pais<sup>2</sup>, João Manuel Mimoso<sup>3</sup>

<sup>1</sup> Laboratório Nacional de Engenharia Civil (LNEC), Av. do Brasil 101, 1700-066 Lisboa, Portugal; Departamento de Conservação e Restauro, e Unidade de Investigação VICARTE – Vidro e Cerâmica para as Artes, Faculdade de Ciências e Tecnologia, Universidade NOVA de Lisboa, Campus de Caparica, 2829-516 Caparica, Portugal, cgeraldes@lnec.pt

<sup>2</sup> Laboratório Nacional de Engenharia Civil (LNEC), Av. do Brasil 101, 1700-066 Lisboa, Portugal

<sup>3</sup> Museu Nacional do Azulejo, Rua da Madre de Deus, 4, 1900-312 Lisboa, Portugal

## ABSTRACT

Several books have presented and discussed the use of azulejos in the Portuguese modernist architecture. However, these tend to ignore the full use of glazed ceramics in the same context. This is probably because in many cases the azulejos are plain and undecorated, or due to the fact that the glazed elements are not actual azulejos, or that their importance in terms of percent of area is low. The authors believe that all cases are worth mentioning and thus present, for the first time, a systematization of all sorts of use of decorative glazed ceramics in Portuguese modernist architecture. This systematization offers a grid of classification in order to make a future enumeration as complete as possible. The authors have also included in this presentation the use of glass mosaics (*Evinel*), which often complement azulejos and other glazed ceramics in modernist buildings. Values are assigned to the cases identified in terms of utility, aesthetics and touristic appeal. All results are summarized in a conclusive table.

Keywords: Azulejos / Values / Modernist architecture / Portugal

## 1 INTRODUCTION

Several books have presented and discussed the use of azulejos in the modernist architecture in Portugal [1, 2]. However, these tend to ignore the full use of glazed ceramics in the same context, probably because the azulejos are often plain and undecorated, or due to the fact that some glazed elements are not actual azulejos, or else because their importance in terms of percent of area is low. The authors believe that all cases are worth mentioning and thus present, for the first time, a systematization aimed to encompass all sorts of use of decorative glazed ceramics in Portuguese modernist architecture. This systematization offers a grid of classification in order to make a future enumeration as complete as possible.

Even though it is out of the main line of discussion, the authors have also included in this paper a small section on the use of glass mosaics, known in Portugal by the name of the earliest diffused brand: *Evinel*. Glass mosaics often complement azulejos and other glazed ceramics in modernist buildings, sometimes even replacing them entirely while aiming at the same protective and decorative purposes.

For each of the cases systematized the authors discuss their values in terms of utility, aesthetics and touristic appeal. All cases are considered from the point of view of a

street walker and thus applications that are not decorative in nature, or are not seen from the street or that represent areas too small (e.g. panels with protective saints or names of streets) or designs too inconspicuous are not considered relevant for the present systematization, even though most are actually possible to be encompassed. All results are summarized in a final table.

## 2 MAIN TYPES CONSIDERED

The discussion considered all use of glazed ceramics architecturally integrated with a decorative content. The systematization considers three main types: i) relevant lining of walls; ii) lining at shop / street level and iii) decorative detailing of walls.

Walls are considered relevantly lined when the whole façade is finished for a significant percent of area (usually more than 50%) intended for aesthetic impact on passers-by.

Lining at street level includes cases in which the lining at the ground floor is either the only one, or significantly different from the rest of the building. The use of glazed ceramics at ground level is often connected with a commercial purpose and is particularly important aesthetically speaking because it is easily perceived, even in narrow streets, where the upper levels will go unnoticed. When buildings are totally lined with the same pattern, including at street level, they belong in the first category. If the linings at street level and in the upper floors are different, they should be classified in the second category when the lining at the upper levels is not considered particularly relevant, or else in both at the same time, because the building is relevant both for its global lining, although only present in the upper floors, and for its (different) use of glazed ceramics at street level.

Finally, decorative detailing of walls includes those cases considered important but not possible to list in any of the previous categories, such as the use of single decorative panels (at street level or otherwise), or small areas at upper level lined with tiles with an aesthetic intention. As often in such cases, the classification in one of the three types may be subjective, as well as the decision to consider a case worth including, or not.

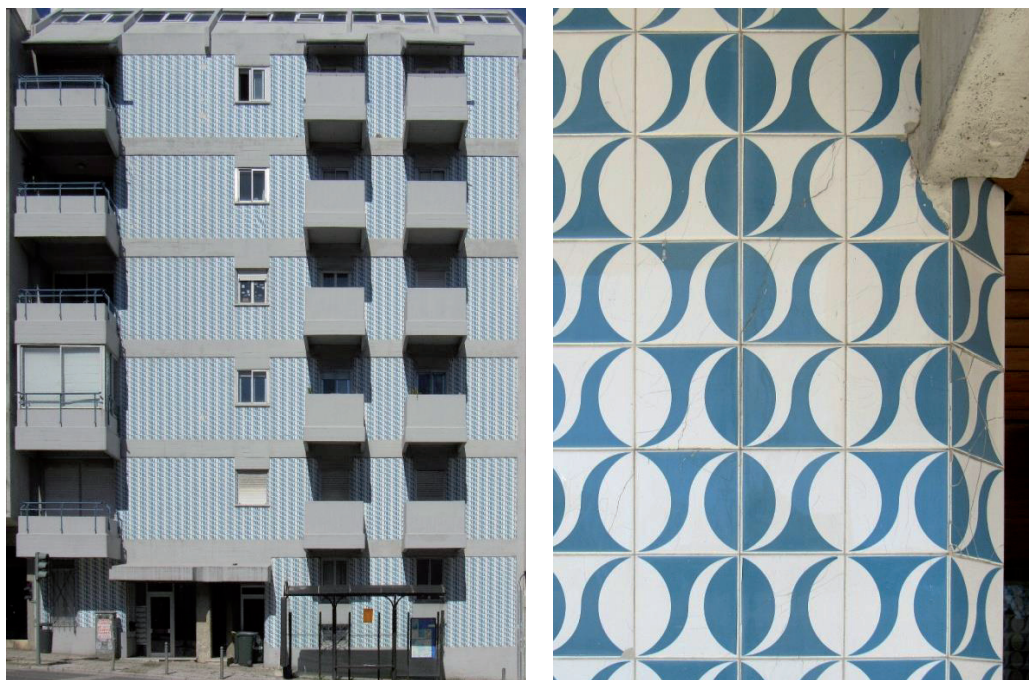
### 2.1 RELEVANT LININGS OF WALLS

Four types of linings of walls considered relevant according to the definition above were defined: those made up of a single repetitive pattern; those made up of several patterns or else mostly of a single pattern but with designs or applications interrupting the continuity (which were called “not wholly repetitive pattern linings”); ceramics (bricks or tiles) glazed in different hues of a single colour; and monochromatic ceramics (flat or textured).

The modernistic linings in figures 1 and 2 denote a significant aesthetic value but while the first is certainly relevant when a street viewer is considered, the second is clearly intended solely for the apartment owners: the linings are mostly hidden by the verandas and were thus considered as a detail (third case). In the case seen in figure 1 the entire ensemble gains aesthetic value and without the lining the building would certainly lack the touch that makes it stand out in the street and the perception would not be the same.

However, it is necessary to realize that this value is decreased or even lost when the decorative glazings are decayed (figure 3), once the impression is modified both by the

alteration of colours and shapes and by the perception of neglect. Therefore, for a consideration of glazed ceramics as a heritage asset, conservation is essential.



**Figure 1: Same repetitive pattern applied in two different buildings in Lisbon. Left, Avenida Rainha Dona Amélia Nº 50; right: Praça de Alvalade (all images taken by the authors)**



**Figure 2: Repetitive pattern mostly hidden from a street view. Avenida Rainha Dona Amélia Nº 52, Lisbon**

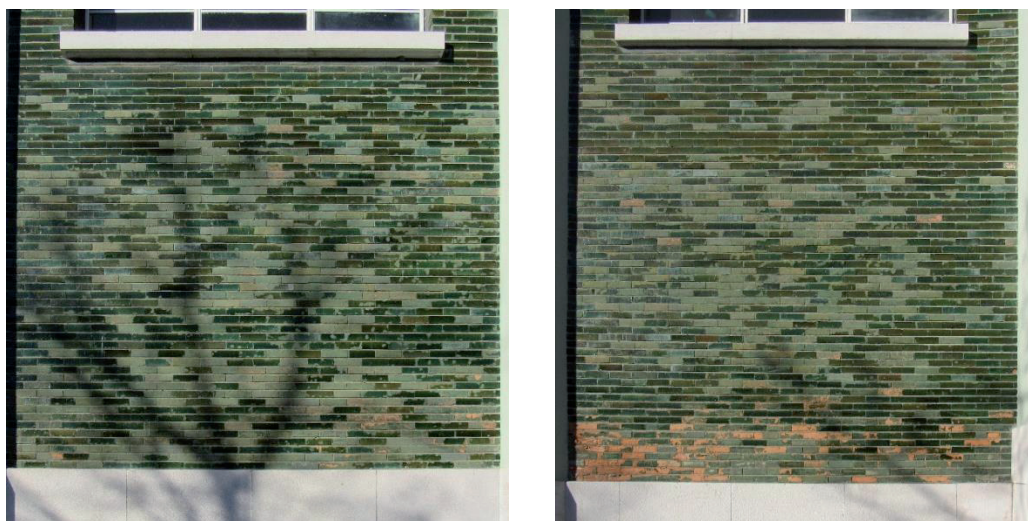
Another sort of glazed architectural finishing is made of glazed tiles or bricks in hues of the same colour. Because the decoration is not graphic, the aesthetic value attributed is lower, although it must be remarked that the use of glazed ceramics in shades of the same colour allows to create texture, variety and interest on façade areas that would otherwise be simple and uninteresting. Also, it seems to have been primarily or even exclusively used in Portugal at this time [3]. For those reasons, it is also important to

preserve this type of lining, since their aesthetic perception and the functionality are lower when they present degradation, as can be seen in figure 4.



**Figure 3: Detail of decay at Av. Rainha Dona Amélia Nº 50, Lisbon**

A slightly different case often with still less aesthetic value is that of monochromatic (flat or textured) glazed ceramics. In figure 5 two different examples can be seen in which the façade has monochromatic flat azulejos integrated. One of the examples is the building of Ministério do Trabalho in Praça de Londres (Lisbon), while the second example is one of a group of modernistic buildings in Avenida do Brasil (also in Lisbon) by architect Jorge Segurado considered important in the context of Portuguese modernist architecture. The latter specifically denotes an utilitarian intention by the architect but also an aesthetic purpose, albeit derived from plain tiles in two different colours. Built in 1957 the habitational blocks may be considered as early examples of the association of the utility of azulejos with aesthetic value without compromising too much Le Corbusier’s premise that “Modern decorative art has no decoration”.



**Figure 4: Casa da Moeda, Lisbon. Left: preserved as originally; right: decayed at bottom**

In this context, the value of utility can be attributed equally to all types of glazed lining since they all safeguard and protect the walls e.g. from the rain. Not only in significant

buildings, such as Casa da Moeda in Lisbon, but also in common buildings in towns.



**Figure 5: Two buildings with monochromatic flat azulejos in Lisbon. Left: *Ministério do Trabalho* in *Praça de Londres*; right: building at *Avenida do Brasil***

The aesthetic value is not altered by the location of the building, however if we consider the value of glazed linings as a touristic attractions (tourism value) it must be associated with something that has appeal, because it is unusual, but also that is easily accessible. Excluding exceptional cases worth a dedicated detour, glazed linings must lie in a town area visited by tourists for other reasons. The applications shown in figures 6 and 7 would be interesting touristic-wise, if they were located in Baixa, the old centre of Lisbon, which tourists never fail to visit. However, the first is in a far-away location in town with little else to offer, and the second is in a different town little visited by tourists. In this sense, the tourist value would be nil in the first case and small in the second.

## 2.2 LINING AT SHOP / STREET LEVEL

The decorative lining of walls at street level is particularly relevant because it lies where the public easily sees the azulejos at the level of their eyes. Eight types were tentatively identified: artistic azulejo panels signed / unsigned; same made of ceramic plaques; publicity designs [4]; repetitive patterns; not wholly repetitive patterns; single figure tiles; monochromatic in hues; and fully monochromatic (flat or textured).

A significant aesthetic value can be assigned to most of them, being often a creation that projects or reflects the intention of an artist or a designer. In contrast to the types described before there is an intention to transmit appreciative emotion without being necessary to observe the whole architectural ensemble.

Figure 6 illustrates a case of lining only at street level with a not wholly repetitive pattern in Lisbon. The glazed lining does not cover the entire façade but bears an important aesthetic value, since there was a clear intention to decorate the surface appealingly, maybe not much for the sake of the condominium owners (as can be seen by the tiles used for the entrance hall of the building), but more for the appreciation of passers-by. This is a very interesting example, because although unsigned, the

executions bear witness to a remarkable technique: the main pattern is made of azulejos with a contoured surface glazed in hues of green and the design is interrupted by sets of two azulejos with a totally different protruding design, in another shade of green. The striking contrast between this artistic panel and the areas that make the access to the interiors, lined with a rather common and uninteresting pattern inspired in a traditional design, establishes a sharp difference between the promoter's opinion on what the condominium owners would likely appreciate in terms of the more secluded areas of the building and the image the architect wants to establish in terms of the street viewers.



**Figure 6: Lining at street level only, with not wholly repetitive pattern. R. Luís Pastor Macedo Nº 32, Lisbon**

Figure 7 illustrates a case of an artistic tile panel decorating a shop front, signed “Daciano” and dated “1950”. The panel does not stand alone because it integrates into the full design of the shop at street level and its aesthetic value must be considered on that basis: if it was removed and exhibited in a museum, some of its value would remain but that part afforded by the integration into a whole would be lost.



**Figure 7: Casa Primavera shop front, R. Miguel Bombarda, Torres Vedras (signed “Daciano”)**

For this type of coatings, it is difficult to define or assign a utility value, since, generally, their integration is for artistic or aesthetic reasons, that is, they are designed to

embellish and decorate a specific façade. On another level, they introduce a significant aspect to the more conceptual purpose of the use of the building and are certainly easier to clean and maintain.

It is possible to attribute touristic value to all these coatings: their integration at street level allows an easy admiration but access is the factor that will most enhance or diminish that value, as previously mentioned. Figures 8 and 9 present interesting examples tourist-wise of a shop in Baixa and a rare example of single figure tiles from the 1940-50s that due to its smaller dimension (one fourth of the normal size of an azulejo) are called in Portuguese lambrilhas. The first example has high value given by accessibility, increased by the fact that Fernando Pessoa worked in the opposite building and here existed a tobacco shop called Havaneza dos Retroseiros that presumably inspired his great poem Tabacaria written as Álvaro de Campos.

The curious shop front in figure 9 would certainly be fully appreciated if it was in Baixa as well, but in this case, it is located in a little-visited town.

The conservation of all these types is particularly important because the examples are often unique and, as pointed before, since their recognition is related with aesthetics, when they show degradation the appeal may be lost or even turned into a negative appreciation of the subjacent neglect.



Figure 8: Shop in the Baixa of Lisbon. *Pelaria Pampas, Rua da Conceição Nº 65*



Figure 9: Travel agency in the centre of the town of *Torres Novas*



### 2.3 DECORATIVE DETAILING OF WALLS

The remaining cases not classifiable in the two main categories above must be classified as decorative detailing of walls. An example was already offered in figure 2. It is difficult to assign the three values mentioned before in this case, because often there is not a clear utility intention and their integration has only a decorative intention that does not quite reach the viewer. Figure 10 further exemplifies one such case.

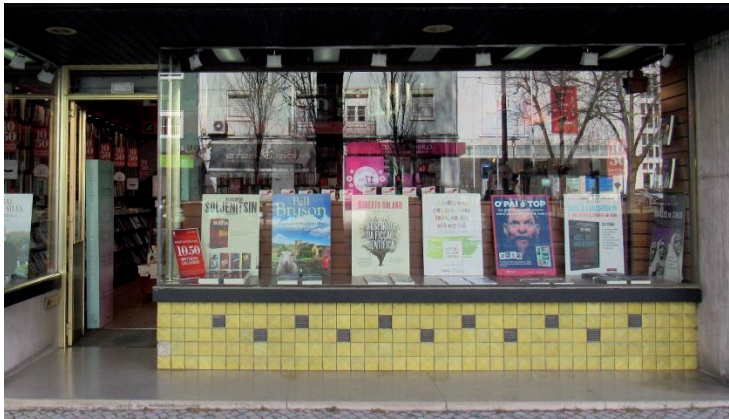


Figure 10: *Livraria Bertrand* in *Avenida de Roma*, Lisbon

### 3 GLASS MOSAICS

Glass mosaics often complement azulejos and other glazed ceramics in modernist buildings, sometimes even replacing them entirely while aiming at the same protective and decorative purposes as the follow images denote. They are not part of the subject addressed by this paper but because of their complementarity the authors chose to point out this (until now neglected by researchers) sort of lining. Figures 11 and 12 exemplify the use of glass mosaics.



Figure 11: *Hotel Roma* in *Avenida de Roma*, Lisbon



Figure 12: Decorative mosaic panel at *R. Silva e Albuquerque N° 1*, Lisbon

## 4 CONCLUSIONS

In this paper the authors offer for the first time, a systematization of the glazed ceramics integrated in the exterior of the modernist architecture in Portugal. The discussion considered glazed ceramics with a decorative content and consequently e.g. the use of brick glazed with transparent glass was not included since the glazing has mostly a protective purpose and does not modify significantly the appearance of natural brick.

The article also pointed to the use of glass mosaic as a particular case in modernist architecture decoration worthy of future study, albeit for now excluded of the systematization offered.

Within our presentation of types, were discussed three sorts of values: an artistic/aesthetic value (related with a decorative intention that may be perceived and assessed by a street viewer); an utility value (merely utilitarian and unrelated to aesthetics); and what were called a “touristic value” related not only with aesthetics but also with singularity. This last value does not depend solely of the ceramics but also on the accessibility of the sites in relation to the usual tourist spots.

Table 1 resumes the systematization of types offering also a tentative appraisal of the three values mentioned. In some cases a whole range of possibilities is stated.

In all cases with aesthetic and particularly with touristic appeal, decay lowers the value and tourist-wise may even turn an intended appreciation into a negative feeling of neglect. Such cases are thus prime subjects for adequate conservation and, if needed, restoration interventions, so that the modernist heritage is preserved for future appreciation.

**Table 1:** Synopsis of types and values in the systematization of modernist glazed ceramics

Values →	Artistic / aesthetic	Utility	Touristic appeal
Type ↓			
<b>1. Relevant lining of walls</b>			
repetitive pattern	++/+	++++	+
not wholly repetitive pattern	+++/+	++++	++/+
bricks in hues of the same colour	++	++++	+
monochromatic flat or textured	-	++++	-
<b>2. Lining at shop / street level</b>			
artistic tile panel signed/ unsigned	++++	-	++++/+
same of ceramic plaques	++++	-	++++/+
publicity design	+++/+	-	++++/+
repetitive pattern	+	-	+
not wholly repetitive pattern	++/+	-	++/+
figure single tiles	++	-	+++
monochromatic in hues	++/-	-	++/-
monochromatic flat or textured	-	-	-
<b>3. Decorative detailing of walls</b>			
	-	-	-

Note: +++++ higher value; +++ high value; ++ medium value; + low value; - not relevant

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# INDUSTRIAL MASONRY CHIMNEYS. A FORGOTTEN SYMBOL OR A CHERISHED HERITAGE?

Nicole Cardoso<sup>1</sup>, Marluci Menezes<sup>2</sup>, Paulina Faria<sup>3</sup>

<sup>1</sup> Departamento de Engenharia Civil, Universidade NOVA de Lisboa – UNL, Portugal, nc.cardoso@campus.fct.unl.pt

<sup>2</sup> Laboratório Nacional de Engenharia Civil – LNEC, Portugal, marluci@lnec.pt, Portugal

<sup>3</sup> CERIS e Departamento de Engenharia Civil, Universidade NOVA de Lisboa – UNL, Portugal, paulina.faria@fct.unl.pt

## ABSTRACT

The conservation of industrial heritage is a relatively recent issue, but it has gained importance not only by the scientific community but also by the citizens, some of them gathered in groups that demand their safeguard. This growing interest raises questions such as; "What and why to preserve?", "What values should be safeguarded?". These questions may have different answers depending on the social groups of interest. One essential factor to answer these questions is to understand how citizens can be involved in built heritage conservation. This communication intends to discuss these questions by presenting several initiatives that integrate Citizen Science in a contribution to the conservation of old industrial ceramic masonry chimneys. This contribution is part of a master's thesis in civil engineering that also intends to make a physical characterization of some representative old industrial chimneys and an inventory of those chimneys in Portugal, counting with contributions of interested people.

Keywords: Industrial Heritage; Tangible; Intangible; Value; Citizen Science.

## 1 INTRODUCTION

The interest and fascination about the industrial heritage or even the recognition of its meaning is something that only began to emerge after the Second World War with the destruction and disappearance of many factories in the 1950's. But over the years it has been gaining expression and importance not only to Associations dedicated to heritage but also to the community at large.

It is essential to understand what values underlie the traces left by the industry, what should be preserved and why and how to perform in different circumstances. To answer these questions, it is fundamental to understand how the heritage is integrated into the life of the populations and how society can intervene in its conservation, since they have a fundamental role on this matter, being the most interested in the preservation, protection and valorisation of their built patrimony.

Old industrial masonry chimneys are an example of heritage left by industry and their existence today can be interpreted by two miscellaneous realities. On one hand, there are many specimens that over the time have been forgotten and abandoned, hence the signs of neglect are evident (Figure 1 - left). In the other hand, there is a great interest in these constructions, demonstrated not only by the various works dedicated to industrial archaeology that integrate the chimneys, like (TICCIH 2012) and (Pont, F; Llordés, T, 2014), but also by the various blogs, webpages and petitions dedicated to

the theme, presented below in this communication.

The increasing urbanization, the deactivation and evolution of industry led many old factories to disappear and, in many cases, only their chimneys remained in the landscape as an imprint of the old industry. In these cases, frequently the old factories are razed but the chimneys are preserved, integrating themselves into the urban landscape (Figure 1 - centre). In other instances, the reuse of the buildings allows the conservation of the industrial facilities in its whole, like the old Arganil ceramics factory, which after 20 years of inactivity has been re-qualified and is now a multipurpose built facility for cultural, scientific, social and other initiatives (Figure 1 – right). It is lamentable that many factories have been destroyed rather than preserved through a reuse of their spaces. All the factories that were re-qualified gave way to magnificent locations.



**Figure 1: An abandoned chimney in Cacilhas (left). A preserved chimney in the middle of a square in Montijo (center) and the rehabilitated old Arganil ceramics factory (right) (photo from CIM/RC)**

From an engineering perspective and the employment of a collaborative methodology, that are by definition a technique that conjoin various groups or individuals to share their knowledge and ideas on a particular subject matter and allows a broader enlightening approach (SCEI, 2010). The present study is integrated in a broader project which aims to contribute to the legitimate conservation of industrial masonry chimneys. For this purpose, it is intended to characterize the chimneys at a material and immaterial level.

With regard to the immaterial part, and based on a science and citizenship initiative, were created online platforms to muster and disclose contributions, moreover, a collaborative map<sup>1</sup> was carried out to incorporate locations, photos and information of industrial ceramic brick chimneys in the Portuguese territory. For a proper analysis of this patrimony, was produced a technical sheet for inventory that allows to identify not only the location of the chimney but also some advantageous information.

In concern to the material part, it is planned to make a general characterization of the chimneys, with respect to their geometry, materials, mechanical characteristics, main anomalies and interventions made in these constructions. However, the present communication especially focuses on the immaterial component, emphasizing the importance of intangibility in tangible heritage.

## 2 BRIEF CHARACTERIZATION OF INDUSTRIAL MASONRY CHIMNEYS

### 2.1 MATERIALS

There are several typologies of industrial chimneys. Regarding the materials, they can be of different categories, like stone or brick masonry, concrete or steel. The present study focuses on brick masonry chimneys. The bricks used in these constructions may be red clay bricks (Figure 2 – left) or, for resistance to very high temperatures an inner layer was made in refractory brick (Figure 2 – right). Regarding their shape, the bricks can be straight, curved (Figure 3 – left) or with wedge shape (Figure 3 - right). These chimneys initially were constructed with lime mortar. When Portland cement appeared (in Portugal, during the first half of the 20th century) the joints of the chimneys began to be constructed with this material.



Figure 2: Red clay brick (left) and refractory brick (right)



Figure 3: Curve shape bricks (left) and bricks with wedged shape (right)

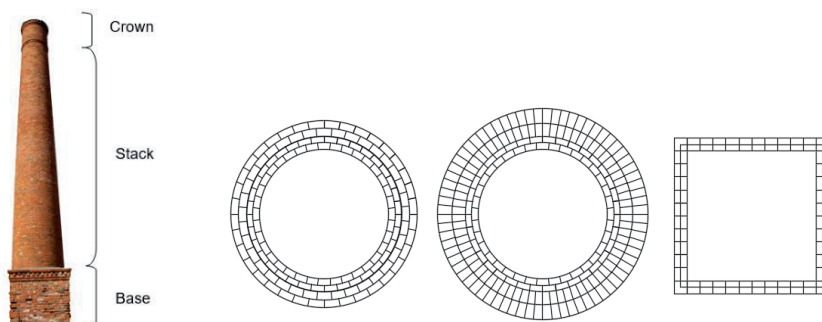
### 2.2 SHAPE AND CROSS SECTION

The constitution of the chimneys is divided into three parts. The base is the lower part of the chimney, where normally the entrance is located. The base also ensures the transmission of the loads to the foundations. The stack is the most important element, and it is responsible for conducting the smoke upwards. The height of the stack is variable and this element is normally conical in shape. Finally, the crown is the top of the chimney. The function of this element is purely ornamental. Many builders used the crown as their mark of distinction (Pallarés et al, 2011). Figure 4 (left) illustrates the constitution of the chimneys.

The height of the chimneys varied between 20m and 50m, but there were some specimens much higher, reaching 100m. The height of the chimney depended on the prevailing wind, type of industry, topography, and the proximity of nearby towns, among other aspects (Pallarés et al, 2011).

The cross section of the stack may have various shapes, such as circular (the most common), squared or even octagonal. The base of the chimney may have the same or a different cross-section of the stack. Examples of different types of cross sections are presented in Figure 4 (right). It can also be seen that the types of masonries can be different. For circular chimneys, especial curved bricks or bricks with wedge shape

were produced and applied.



**Figure 4: Constitution of the chimneys (left) and three examples of the cross section of the chimneys (right)**

### 2.3 PHYSICAL AND MECHANICAL CHARACTERIZATION

With the collaborative map, some chimneys will be selected to further characterization by visual inspection and non-destructive in situ tests. Whenever possible – often the chimneys are partially destroyed and there are samples of masonry elements on the pavement – brick samples of the old chimneys will be collected and brought to the laboratory. This allows another goal of the present project: to make a physical characterization of the material of the chimneys. Thus, for the time being, bricks and masonry samples were already collected for future laboratory tests, from five different chimneys: one in Amadora, another in Arrentela, and three from Setúbal. The laboratory tests that will be performed are: dimensions survey, colour analysis, bulk density, thermal conductivity, water absorption by capillarity and water absorption by Karsten tubes, abrasion tests, surface strength determination, modulus of elasticity, flexural and compressive strength.

## 3 THE VALUES OF INDUSTRIAL HERITAGE AND OLD CHIMNEYS

It was not until recently that the concern for the protection of industrial heritage, and the awareness that tangible and intangible heritage have a great value for the community, either in historical, technological, social, cultural, architectural or scientific terms (TICCIH, 2003) began to emerge.

The issue of heritage conservation is deeply linked to the meaning of values, since what has no value has no interest to be preserved. It is then necessary to understand what values are attributed to heritage. This assessment will be a decisive factor in how to perform towards heritage (Mason, 2002) and for conservation actions to be as appropriate and relevant as possible.

The industrial heritage represents a reference in the landscape and an important fraction of the history of the communities, considering that it is an element representative of all the industrial activity that over the years has been transmitting values and leaving memories to the population. Therefore, it has an important historical, social and cultural value, being a testimony of the evolution of the industry, that allows knowing aspects of the past, to enrich the present and to build the future. The concept of industrial heritage includes constructions and places where activities

related to industry have taken place and have profound historical consequences (TICCIH, 2003), and were often a symbol of the technological and economic development of many societies.

The industrial brick masonry chimneys are a landmark of the old industry, and can be found a bit throughout the Portuguese territory, also representing a valuable example of architecture and construction techniques of the past that must be preserved (Lopes et al., 2009).

Some very pertinent questions that can be asked are: why so many factories are destroyed and not reused, and only the chimneys are maintained? After all, shouldn't industrial heritage be preserved as a whole? This does not happen due to increasing urbanization and technological and social evolution. This issue shows the conflict between the growing urbanization of spaces and society evolution with the will to preserve the industrial heritage. With the presence of the chimney it is possible to remember and to revive what once, in that location, was a working environment and led to great evolution, which leaves a milestone in the hearts of the community, even if the whole factory does not exist. The chimneys are also a landmark in the landscape, giving character and identity to spaces and creating a connection between the people and their land. This shows the importance of the conjugation of tangible and intangible aspects of this heritage.

The artistic value attributed to the chimneys is unquestionable. In addition to being a slender and imposing element, most of the chimneys, when constructed, were embellished in the crown, with an "author's mark" as it is shown in Figure 5 (left). Sometimes, the stack can also be a different and very interesting element - Figure 5 (right) show an example.



**Figure 5: Examples of a decorated crown (left) and stack (right) (right photo from Pallarés et al, 2011)**

## **4 CITIZEN SCIENCE INITIATIVES**

It is notorious that people are increasingly taking an active and participatory role in initiatives that claim the preservation and protection of their common built heritage. Therefore, it is also important to give the opportunity to those who admire and value all the industrial heritage to partake in these initiatives. With this intent, the concept of Citizen Science emerges.

The concept of Citizen Science is multidisciplinary and can be applied to several subjects. This concept consists of a research approach that includes citizens in scientific projects (European Citizen Science Association, 2015).



“Citizen science is the involvement of the public in scientific research – whether community-driven research or global investigations. The Citizen Science Association unites expertise from educators, scientists, data managers, and others to power citizen science” (Citizen Science.Org).

Citizens participate actively, consciously and voluntarily by providing useful contributions to the process of producing scientific results. The main goal of these initiatives is to benefit both citizens – mainly through the increase of a scientific conscience and, in this case, patrimonial conscience – and scientific projects. Therefore, it is an approach that counts on the participation of the citizens for a project of their interest.

Regarding brick masonry industrial chimneys, there are already some sites and blogs that show the growing interest in this theme. Among many, a blog about the chimneys in Montijo<sup>2</sup>, can be found, where the various chimneys still existing are presented and indicated the old factories to which they belonged. In this blog, it is emphasized that “the chimneys of the old factories integrated in the city planning of the city of Montijo, are a decorative element and a historical patrimony”. Another blog was published by Divagares in 2014<sup>3</sup> about the history of the canning industry in Setúbal, mentioning the chimneys that now are just a memory of the 116 factories that once were active. There is also a petition<sup>4</sup> for the preservation of the industrial chimneys of the metallurgical zone in Castelo Branco (Petição Pública, Pela preservação das chaminés industriais da zona da Metalúrgica). In the comments of this petition one subscriber said:

“I believe that the Metallurgical chimneys are an industrial heritage of our city, so they should not be destroyed, they are part of our memories that characterize a time of great importance for industrial development in Castelo Branco, it was a pity that the building was practically destroyed, would have given a beautiful museum”.

In another comment on the same petition another subscriber said:

“The chimneys in question are a city heritage whose destruction also destroys part of the memory of this city. The chimneys are like a storyteller from the so-called industrial revolution to our days”.

There is also a blog with a brief introduction to the chimneys and its history<sup>5</sup>.

One of the targets of the present study is to highlight the importance of citizens in heritage conservation, using several citizen science initiatives. Therefore, was created a collaborative map<sup>6</sup> and disseminated by social networks, encouraging and allowing all interested people to indicate the location of old industrial chimneys in the Portuguese territory, as well as information about those chimneys. Furthermore, was created a group on Facebook<sup>7</sup> on November 16, 2016, called Industrial heritage. Brick masonry chimneys (Património Industrial. Chaminés de Alvenaria de Tijolo) to collect contributes and to divulge information about the project included in a master's thesis. The group counts on the collaboration of 384 members. The information acquired, after analysis and systematization, will be published in the group and online page<sup>8</sup>.

## **5 COLLABORATIONS OF CITIZENS AND RESULTS**

### **5.1 FACEBOOK GROUP. “INDUSTRIAL HERITAGE. BRICK MASONRY CHIMNEYS”**

The results obtained have been intensely encouraging and very positive. The members

of the group on Facebook joined the initiative and many published photos of chimneys (Figure 6), photos of material (Figure 7) and revealed a notable interest on the project. One of the members of the Facebook group said “Here is an interesting and often overlooked theme. I will certainly follow and participate as much as possible.” Another member published:

“My friends, I have a brick chimney, old smoke drain from the bakery that existed in my building and is very similar to these. I invite the illustrious group to enter my palace and photograph, see and draw the chimney.”

One of the publication, made by a member of the group, allowed the collection of samples for laboratory tests to be performed.

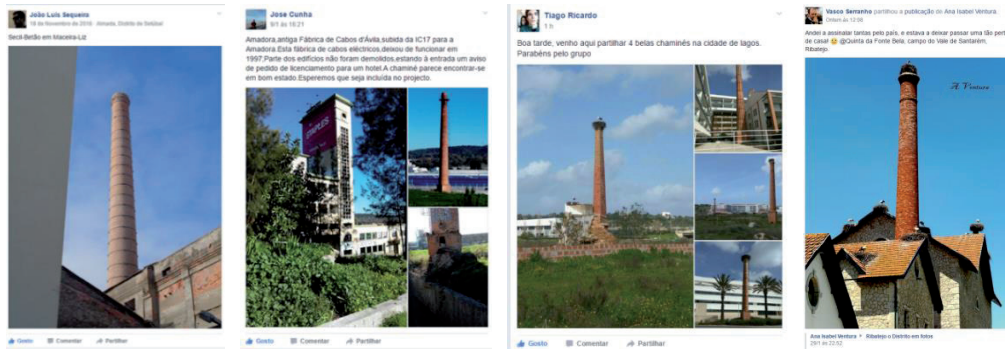


Figure 6: Photos of chimneys published on Facebook group



Figure 7: Photos of bricks of old industrial chimneys published on the Facebook group

## 5.2 COLLABORATIVE MAP

The collaborative map created on December 2, 2016 had remarkable acceptance. The major percentage of the chimneys located on the map are the result of contributions from the citizens. The main goal is to do an inventory of the chimneys in Portugal and to obtain as many information as possible about those chimneys. The map allows all people to identify the location of the chimneys, upload photos and every relevant information concerning the chimney.

The map is organized in three different sections, one with the chimneys published in the Facebook group, another with the chimneys found through bibliographical research or by sighting, and another with the chimneys placed directly on the map by the citizens. Figure 8 shows this organization.



**Figure 8: General view and organization by colours of the collaborative map**

In total 176 chimneys are located on the map, 28 located through the publications of Facebook, 126 directly located by citizens on the map and 22 found through bibliographic research and sighting of the authors. Table 1 shows the number of chimneys located until February 2017 in each district of Portugal.

Table 2 shows some of the chimneys located on the map, their coordinates, and to which factory they belonged, when it is possible to know. It is also presented how the chimney were found and the current surroundings. Framed in the urban environment means that the chimney is preserved in the urban landscape but the factory was demolished.

**Table 1: Number of chimneys in each district and the total of chimneys on the map**

Aveiro	Évora	Porto	
6	2	15	
Beja	Faro	Santarém	
1	9	21	
Braga	Guarda	Setúbal	
4	0	28	
Bragança	Leiria	Viana do Castelo	
0	25	0	
Castelo Branco	Lisboa	Vila Real	
4	49	0	
Coimbra	Portalegre	Viseu	
5	6	1	
			<b>Total</b>
			176

**Table 2: Detailed information about some of the chimneys located on the map**

Aveiro	Location	Factory	Industry	Coordinates	Current surroundings	Located through
Espinho	Museu municipal de Espinho	“Brandão, Gomes & C.ª”	Canning	40.99988, - 8.64566	Inserted In the municipal museum of Espinho	Map
Castelo Branco	Location	Factory	Industry	Coordinates	Current surroundings	Located through
Castelo Branco	Rua Pedro da Fonseca			39.81901, - 7.49258	Inserted in an abandoned industrial complex	Map
Coimbra	Location	Factory	Industry	Coordinates	Current surroundings	Located through
Arganil	Antiga Cerâmica Arganilense	Antiga Cerâmica Arganilense	Ceramic	40.21896, - 8.06316	Inserted In the auditorium of the Argalinense ceramics	Facebook
Faro	Location	Factory	Industry	Coordinates	Current surroundings	Located through
Lagos	Rua dos Celeiros			37.10835, - 8.6784	Framed in the urban environment	Map
Leiria	Location	Factory	Indústria	Coordinates	Current surroundings	Located through
Caldas da Rainha	EN8			39.43387, - 9.13173	Inserted in an abandoned industrial complex	Map

## 6 FINAL REMARKS

With the growing concern with the preservation of heritage, there is a need for new ideas and strategies that allow it to be performed in an appropriate and well-founded manner.

This initiative, which aims to give all people the opportunity to express themselves, demonstrate their interest and, above all, actively contribute for Citizen Science, has shown that with a collaborative process it is possible to achieve good results for the preservation and safeguard of heritage.

The active and interested participation of so many citizens shows the value attributed to the industrial ceramic chimneys. These constructions are not only a reminder of the past times, but a proof of the evolution throughout the ages and are also a construction that provides identity and personality to spaces, making people identify with their territory.

## ACKNOWLEDGMENT

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## Notes

<sup>1</sup> A collaborative map is a virtual and fully public data base whose contents are generated by the user, that is, a map that allows the user to edit, add or change information according to the map subject. In this case, the collaborative map created intends to collect chimney location points, as well as photos and comments.

<sup>2</sup> Blog about the chimneys in Montijo: <https://aviagemdosargonautas.net/2013/04/12/as-chamines-das-antigas-fabricas-do-montijo-estao-a-desaparecer-totalmente-de-jose-bastos/>

<sup>3</sup> Blog about the history of the canning industry in Setúbal: <http://divagares.blogs.sapo.pt/270954.html>

<sup>4</sup> Public Petition, For the preservation of the industrial chimneys of the Metallurgical zone (Petição Pública, Pela preservação das chaminés industriais da zona da Metalúrgica): <http://peticaopublica.com/pview.aspx?pi=CHAMINE-METALURGICA>.

<sup>5</sup> Blog with a brief introduction to the chimneys and its history: <http://engenharia-quimica.blogspot.pt/2013/10/sobre-as-chamines-industrais-em-tijolo.html>

<sup>6</sup> Collaborative map: [https://www.google.com/maps/d/edit?mid=1534LxH\\_hd\\_2uGe1nN\\_q6HNIB7oo&ll=39.13445985846215%2C-8.360302649999994&z=7](https://www.google.com/maps/d/edit?mid=1534LxH_hd_2uGe1nN_q6HNIB7oo&ll=39.13445985846215%2C-8.360302649999994&z=7)

<sup>7</sup> Facebook group: <https://www.facebook.com/groups/1679654645698479/> Industrial heritage. Brick masonry chimneys (Património Industrial. Chaminés de Alvenaria de Tijolo). The group refers to chimneys in Portugal, so it's publications are in Portuguese.

<sup>8</sup> Online page: <http://nccardoso.wixsite.com/chaminesindustriais>.

# PRODUCTION TECHNOLOGY AND TECHNO-HISTORICAL VALUE IN FAIENÇA AZULEJOS

João Manuel Mimoso<sup>1</sup>, Lurdes Esteves<sup>2,1</sup>

<sup>1</sup> Laboratório Nacional de Engenharia Civil (LNEC), Av. do Brasil 101, 1700-066 Lisboa, Portugal, jmimoso@lnec.pt

<sup>2</sup> Museu Nacional do Azulejo, Rua da Madre de Deus, 4, 1900-312 Lisboa, Portugal, mesteves@mnazulejo.dgpc.pt

## ABSTRACT

Alois Riegl in *The Modern Cult of Monuments*, originally published in 1903, was one of the first to ascribe a historical value to the results of a technology when he stated that even a torn-off slip of paper with a short unimportant note contains historical value for the development of paper manufacturing, script and writing materials.

Glazed ceramic tiles (*azulejos* in Portuguese) are widely appreciated and studied for their artistic content. Their historical value is fully recognized but research deals mostly with the painting, the use of colour, the subjects or designs depicted in historiated or pattern panels and the purpose of their use over time. There is however an important historical value in their technology.

The present text makes an overview of the pre-industrial technology of tile-making and offers some examples of how the historical content in that technology can be extracted and interpreted.

Keywords: Azulejo / Tile-making technology / Historical value in technology

## 1 INTRODUCTION

Alois Riegl in *The Modern Cult of Monuments*, originally published in 1903, was one of the first to ascribe a historical value to the results of a technology in the sentence: [...] *every historical monument is also a monument of art, since even such a subordinate monument as a torn-off slip of paper with a short unimportant note contains, along with its historical value for the development of paper manufacturing, script, writing materials, et cetera, a whole series of artistic elements: the outward appearance of the slip of paper, the shape of the letters, and the manner of its composition.* [1]

Glazed ceramic tiles (*azulejos* in Portuguese) are widely appreciated and studied for their artistic content. Their historical value is fully recognized but research deals mostly with the painting, the use of colour, the designs, the subjects depicted in historiated panels and the purpose of their use over time. There is however an important historical value in their technology, which we may call the *techno-historical value*. Azulejos were manufactured by the faïence (or majolica) technology, originated in the Middle East in medieval times and seemingly introduced to Europe through the Islamic kingdoms of Iberia. Majolica was perfected in Italy in the 15<sup>th</sup> century and exported with emigrant shop-masters to Spain and Antwerp in the early 16<sup>th</sup> century. Of these the establishment of Guido di Savino from Castel Durante in Antwerp (where he took the name *Guido Andries*) around 1508 [2] is particularly relevant because from

his workshop irradiated, directly or indirectly, technological knowledge to several countries likely including Portugal [2, 3].

The present paper makes a quick overview of the pre-industrial technology of tile-making used since the Renaissance until the first half of the 19<sup>th</sup> century and shows some examples of how the techno-historical value can be extracted and interpreted. The results may later be used e.g. for provenance studies.

The study of the technology used several sources chronologically dated from *Li Tre Libri dell'Arte del Vasaio* written by Cipriano Piccolpasso in the second half of the 16<sup>th</sup> century [4], to *Ceramica Portuguesa Moderna* (Modern Portuguese Ceramics) by Charles Lepierre, published in 1899 [5]. The reference to Piccolpasso is relevant because the improved technology that spread throughout Europe in the Renaissance originated in Italy.

The French treatise *L'Art de Fabriquer la Faïence Recouverte d'un Émail Opaque Blanc et Coloré* by F. Bastenaire-Daudenart was also consulted [6]. It was published in Paris in 1828, but the experience behind it was acquired by its author in the previous decades, when he had directed a factory in Saint-Amand-Les-Eaux, originally founded in 1705.

Finally the documentation of the Real Fábrica do Rato (RFR) was consulted [7]. In the last third of the 18<sup>th</sup> century it was the most technologically advanced manufacturer of faïence, including azulejos, in Portugal.

The production of azulejos involved many activities, some of them remarkably complex. The main manufacturing challenge was the obtaining of compatibility between the glaze and the biscuit from the temperature it started to harden, above 500 °C, down to the normal temperature, with its highs and lows, at which the azulejos were supposed to be functional for centuries. Compatibility meant that the glaze had to be well connected with the biscuit so that it would not spall off but also that its retraction during cooling followed that of the biscuit to exclude the possibility of shivering and at room temperature was under slight compression to avoid visible crazing. The composition of the raw materials of the biscuits, the composition of the glazes that had to be compatible with them, and the second firing cycle that resulted in the final product were the most challenging problems to be dealt with.

## 2 THE CLAYS

Every potter aims at finding proper clay, meaning a raw material fit for the purpose of manufacturing glazed tiles. We know today that the best results could only be obtained with marl or else a mixture of clay with limestone. Piccolpasso (in his First Book) mentions the utilization of two sorts of raw material: one to which he calls *genga*, rich in calcium, fit for the production of majolica and cream in colour after firing; the other, poor in carbonates, fired red and was fit for kitchen ware. The calcium content resulted in the right thermal expansibility resulting, upon cooling, in a slight compression of the glaze that excluded crazing [op. cit: 27-28].

Sources converge in that for many centuries potters were not aware that a proper raw material could be obtained by mixing clay with milled limestone and so they depended on the finding of a deposit of suitable marl. Of course its suitability could only be established empirically by tentatively firing glazed tiles made from it. Kate van Lookeren-Campagne researched Dutch sources and showed that, once adequate

marls had been found, potters knew they might be improved by mixing with other materials (such as sand or specific clays) but potters relied always on the same deposits, including imports from abroad and that notwithstanding the technological evolution, in Holland the situation was still the same at the end of the 18th century [8]. Bastenaire-Daudenart writes at a time when it is already possible to establish scientifically the desirable composition of the raw materials [op. cit: 27-32], and yet he regrets that many would-be potters were ruined in attempting to find a proper marl because they were unaware of the then modern means of analysis [op. cit: 11-13].

The information available points thus to the possibility of geographical attribution of productions based on a chemical analysis of the biscuits. But documents from the archives of Real Fabrica do Rato in Lisbon, dating from the early 19<sup>th</sup> century, show that there were several locations where the clays and marls were extracted (at least 17 in Portugal). This means that by this time it was easier, at least for a major factory, to obtain a suitable raw material (presumably by altering the composition through mixings) and a geographical attribution based solely on the composition of the biscuits at this late time may be impossible.

### **3 THE MANUFACTURE OF THE TILES / AZULEJOS**

The clay / marl was mixed with water and screened and then mixed with sand on a 2: 5 basis. The mixture aimed at reducing retraction upon cooling and the resulting paste was beaten and knead by feet [9, p. 26]. Portuguese azulejos from the 17<sup>th</sup> century have thick biscuits (averaging 15 mm) often depicting layering (e.g. in cream and reddish) and conspicuous inclusions, usually small stones, and hollows. Later productions show an increasing efficacy in the screening of the clays and homogeneity of the paste, corresponding to technological improvements.

In Portugal the first description of the technology for shaping tiles that we know is in a manual on construction materials written in 1882 [10]. The tiles were shaped by squashing the paste kneaded by hand into a mould in wood [9, pp. 28, 31]. After being moulded, the raw tiles were first piled and then laid on open shelves that allowed air to circulate over all faces and let to dry. While still malleable, the pieces were beaten to reduce the hollows and then brought to final shape by cutting them with the help of a metallic template [10, p 106].

Edges were broken with a pointed hammer to increase the area of adhesion to the mortar. The resulting irregular edges are called in Portuguese “escacilhado” and could be done, either before, or after the glaze firing. In the latter case the glaze does not run over the new faces and the area for adhesion is maximized. The actual solution used in a given case may help discriminate the workshop producing the tiles.

After the shaping, drying and, eventually, breaking of the edges, the ceramic tiles were fired for the first time.

### **4 THE KILNS**

Piccolpasso describes and illustrates in great detail a majolica kiln used in Italy in the 16th century [op. cit. Libro II, sections 92-100]. Figure 1 reproduces one of the original plates depicting a rectangular kiln. In 1828 Bastenaire-Daudenart describes similar kilns ca. 2.70m wide by up to 4.00m deep adding that these were the only types used 30 or 40 years before but they had a number of shortcomings, including the fact that

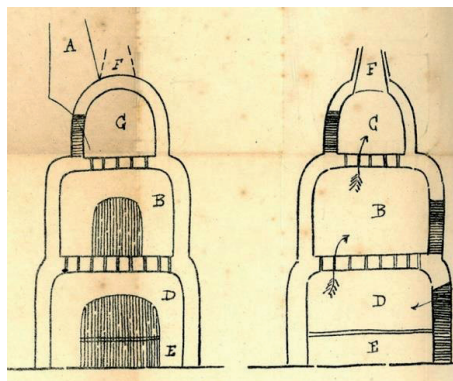


the wood was fed only along the axe and the temperature in the interior had considerable gradients. He stated that elliptic kilns, or at least with rounded corners were by then replacing the old rectangular types [op. cit: 103-122).

Lepierre, in 1899, illustrates a rectangular kiln with rounded edges used by a Portuguese factory in Aveiro (figure 2). It had two superimposed chambers: on the top was fired the biscuit and on the lower one the glaze [op.cit. folding plate].



**Figure 1: 16th century kiln as illustrated by Piccolpasso in Li Tre Libri dell'Arte del Vasaio**



**Figure 2: Kiln used by the Fonte Nova Factory in Aveiro in the late 19th century and illustrated by Lepierre (op.cit.). The biscuit is fired in “C” and the glaze in “B”. “D” is the fire chamber and “F” an exhaust**

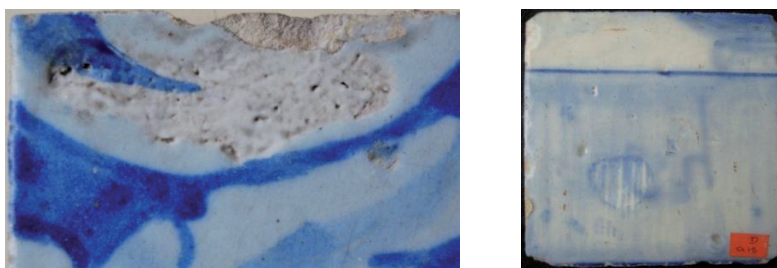
## 5 GLAZE AND GLAZING

Piccolpasso describes the manufacture of the raw glaze in two steps of which the first is the preparation of the *marzacotto*, a mixture of fine sand with plant ash (which was the source of potassium oxide) on a proportion of 3 to 1 in weight that was subsequently calcined and milled. The second step was the preparation of the *calcina*, a mixture of tin and lead, eventually with some sand added. The frit (raw glaze) was obtained mixing the *marzacotto* and the *calcina* and subsequently wet-milling the mixture [Piccolpasso, op. cit. Libri II & III, sections 62-64; 72-76; 182-183].

At the RFR in Lisbon, the lead and the tin were always acquired from British sources.

To apply the glaze, the frit was mixed with water and stirred until a milky suspension was obtained. The glaze was applied over the biscuit by letting it run over the surface, by dipping or with a brush. The density of the glaze was controlled through the volume of water added to prepare the suspension.

After the glaze dried the surface was hard enough to sustain contact and could eventually be transported to the shop of a painter and back to the potter's workshop. After the second firing a flawless white background was expected but rarely obtained. Almost all tiles present imperfections that may be very small (pit holes) or deface an important area (fissures or glaze crawling). In the 18<sup>th</sup> century, rather than repainting whole tiles and risk noticeable variations in hues of blue, the larger defects could be corrected with new glaze and if the glaze had already been fired, the tile was re-fired (figure 3). Such observations exemplify the historical value of tiles where defects of several sorts are apparent, from which valuable information can be gathered on the workshop practices.



**Figure 3: Retouchings with new glaze to reintegrate lacunae caused by defects in 18th century tiles (Museu Nacional do Azulejo items ref<sup>a</sup>. A 159 and ref<sup>a</sup>. A15 D)**

## **6 PIGMENTS AND DECORATION**

Painting over the raw glaze was described by Piccolpasso at a time when majolica was an art medium. The information he gives is applicable to Portuguese azulejos as well, up to the first half of the 19<sup>th</sup> century, when stencils were introduced to hasten the production of repetitive patterns.

The decoration was painted over the raw glaze. Colours could be different after firing. Cobalt blue could be obtained as a grey oxide (zaffre) however it could also be processed as blue smalt and it is likely that it was used mostly under this form [11].

In figurative panels the intensity of the blue could be varied by the addition of water. Because the raw glaze is made up of aggregated powder, when the paint is applied the water is absorbed and the pigment deposited. Each brush pass is clearly seen only after firing and each superposition, whether wanted or not, making any complex hand painting on faience a particularly difficult art, requiring great craftsmanship.

A recent publication made an overview of the use of cobalt blue in Portuguese azulejos and showed that the pigment used in Portugal since the 16<sup>th</sup> up to the second half of the 18<sup>th</sup> century had its origin in Saxonia and Bohemia. The same paper reviewed the technology used to obtain the pigment from the cobalt-bearing ore to zaffre and smalt [11].

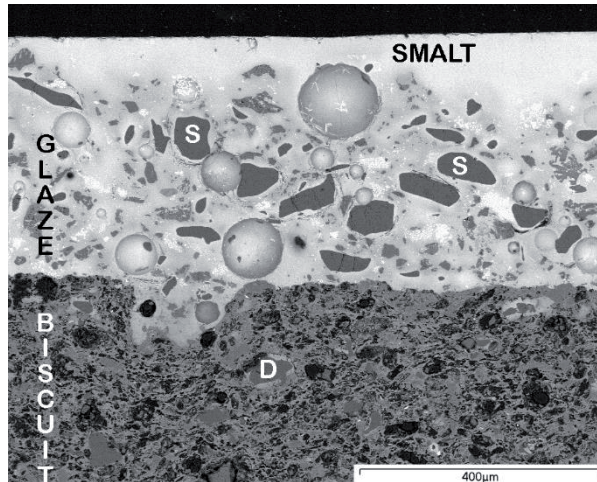
Of all the pigments used, copper green, iron brown and manganese dark purple were likely produced locally given the accessibility of their raw materials. Manganese can be obtained from several different ores and is thus specially promising as a basis for sourcing the pigments. Blue smalt may also have been produced locally from cheaper imported zaffre.

## **7 TECHNO-HISTORICAL INFORMATION FROM SEM OBSERVATIONS**

There are contemporary written sources, as mentioned, but many details remain unknown, either because they were considered a shop secret or, more often, because they were not considered relevant. To enlighten such aspects we have however a source available: the manufactured products themselves.

## 7.1 A PORTUGUESE 17<sup>TH</sup> CENTURY AZULEJO

Figure 4 is a backscattered scanning electron microscope (SEM-BSE) image of a section of a 17<sup>th</sup> century azulejo of Portuguese manufacture, painted in blue. The glaze and biscuit areas are indicated. The glaze is depicted with a lighter colour because of its high content in lead, an element with high atomic weight.



**Figure 4: SEM-BSE image of a section of the glaze and biscuit of a 17th century Portuguese azulejo painted in blue. “S” are grains of sand (image acquired at the laboratory of the CSIC, Madrid, Spain)**

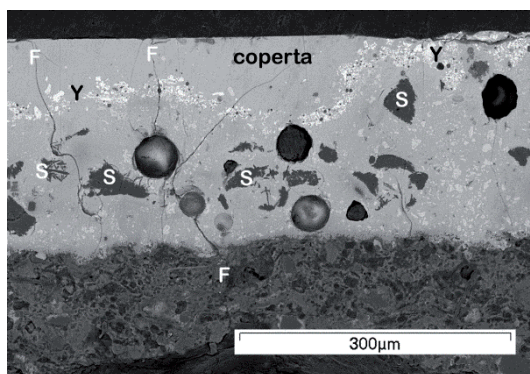
Many grains of sand are to be seen in the glaze (two are indicated by the letter “S”). Their boundaries are very sharp and small fissures may be seen around the larger grains. These were formed when the glaze cooled under 573 °C, the quartz underwent its beta to alfa inversion and the grains of sand contracted in a manner that the surrounding glaze could not compensate.

There is a layer on top, of a colour lighter than the rest of the glaze, where no grains of sand or other impurities are seen. That is a layer of blue smalt and the lighter colour indicates that it is richer in lead than the glaze and consequently lower-fusing. The smalt does not have tin oxide (small white crystals seen elsewhere in the glaze) and the fact that it does not have any inclusions whatsoever indicates that a fine milling was possible and consequently the presence of inclusions in the glaze does not derive from a technological shortcoming but is purposeful, probably to help render it opaque with less use of expensive tin.

There are several other details of interest, one of which has to do with the grains of sand in the biscuit. One of the grains is marked “D” and it is seen to be encircled by a substance slightly lighter in colour that fills a void that once existed around the grain, probably caused by the quartz inversion. An examination of the biscuit will reveal other instances of a substance of the same colour filling former voids. That substance is calcium oxide deposited by limewater that circulated through the porous biscuit. It indicates that the tile was applied on a moist wall and in time the calcium oxide will carbonate and form calcium carbonate.

## 7.2 A FLEMISH 16<sup>TH</sup> CENTURY AZULEJO

Figure 5 is the image of a similar section taken now in a Flemish tile manufactured in Antwerp in 1558 [12]. This part of the tile is painted in yellow and the lead-rich pigment does not dissolve in the glaze and may be seen as a layer of white fragments marked “Y”. In Portuguese azulejos this colour layer is always at the surface because it does not sink into the glaze but here it is covered by a layer without small crystals of tin oxide, grains of sand or any other inclusions. This is a layer of clear glass called “coperta” originally used as a protective upper layer by Italian majolica manufacturers and to which Piccolpasso refers, recommending that it should be sprinkled with a brush to avoid disturbing the painting already applied. Indeed it is easily recognized that since the yellow layer seems to wave, even touching the surface, the *coperta* must have been sprinkled over the finished paint.



**Figure 5: SEM-BSE image of a section of a 16th century Flemish azulejo painted in yellow (pigment “Y”). “F” marks fissures in the glaze. “S” are grains of sand transforming into a high temperature form of silica (image: LNEC)**

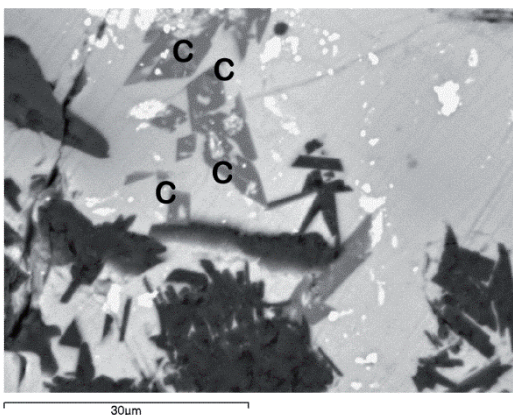
A number of grains of sand are seen inside the glaze, some of them marked “S”. However, their boundary is not sharply defined, as in the Portuguese azulejo, and the smaller grains are seen to have transformed into separate flat-shaped crystals. This is because the glaze was fired at a high temperature and probably kept at the top temperature for a relatively long time and the grains of sand transformed into a high-temperature polymorph of silica (tridymite or cristobalite), a change that is not reverted when the glaze cools.

The fissures around the grains of sand, that were so apparent in the section shown in figure 4, are absent here, even in the case of relatively large grains of sand that were cooled when they were just starting to re-crystallize. This observation suggests that, either the cooling was slower, or else the glaze was softer than that in the Portuguese azulejo when the cooling attained the quartz inversion, allowing for a re-arrangement.

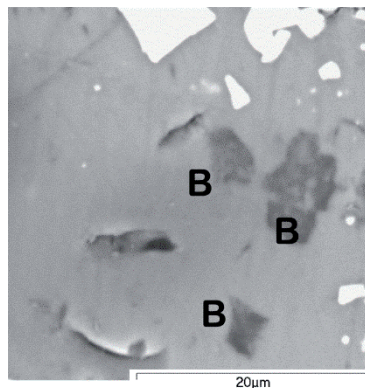
However a number of fissures are seen in the glaze (some of which marked “F”). One of those can be seen to enter the biscuit and propagate into it. This suggests that during the lifetime of the tile, it was kept for a relatively long time in a moist environment - the biscuit expanded up to a point when the glaze, that does not absorb moisture, crazed because it could not meet the expansion.

Figure 6 shows a SEM-BSE image of a detail of the same section where a number of rhombohedral crystals are seen (some of which marked “C” in the image), often depicting a lighter core. These crystals are rich in silicon and started nucleating around a tin oxide crystal formed at a higher temperature. The fact that the main component of

the glaze is crystallizing instead of forming the amorphous glass structure means that the cooling must indeed have been very slow and consequently some devitrification occurred. This devitrification happened during the firing of the glaze and should not be confused with a form of decay.



**Figure 6 : SEM-BSE image of a section of a 16th century Flemish azulejo depicting devitrification crystals "C"**



**Figure 7 : Another detail of the same section with inclusions "B" rich in P and Ca (both images taken at LNEC)**

On figure 7 a number of peculiar rather indistinct crystals can be seen and were singled with the letter "B". These were never seen in Portuguese azulejos and are of a compound rich in phosphorus (P) and calcium (Ca) and probably mean that at this particular workshop bone dust was added to the glaze frit, possibly for added opacification. The resulting content in P (ca. 3%) can be capital for the attestation of a provenance.

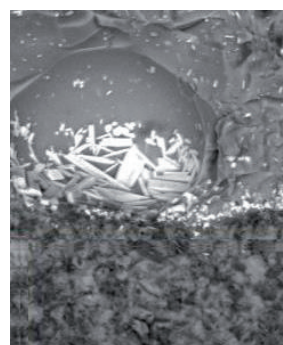
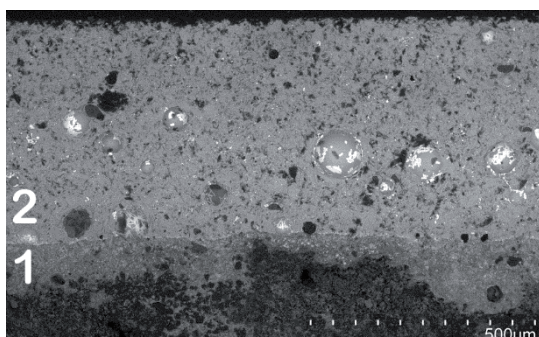
### 7.3 A PORTUGUESE 20<sup>TH</sup> CENTURY AZULEJO BY JORGE COLAÇO FOR FABRICA LUSITÂNIA

Figure 8 shows part of a panel painted in 1932 by Jorge Colaço on *Fábrica Lusitânia* to line the façade of the Church of St. Ildefonso in Porto. At this time he was painting in the glaze - previously he had painted over the glaze [13] - and yet his work depicts an extraordinary control over the difficult cobalt blue pigment. A small scale that had spalled from the façade was retrieved and Figure 9 shows two SEM-BSE images thereof. On the left side image can be seen that, extraordinarily, the glaze is made up of two layers: a basal layer ("1") which must have been fired with the biscuit since there is no clear borderline in the interface, as seen e.g. in the examples of figures 4 or 5. Over this stands a second glaze layer ("2") whose lighter colour points to a higher content in lead. The picture on the right side of figure 9 depicts a small boundary area between the two layers and it is evident that they did not fuse together and the opacifier used (an arsenic compound) did pack on the interface and inside the gas bubble but seemingly could not cross the border. An analytical procedure by energy-dispersive X-ray spectroscopy (EDX) associated to the SEM revealed that the proportion between the contents in Si and Pb is ca. 1.5 in the lower layer, but only 0.7 in the upper layer. This means that layer 1 has the composition of the glazes normally used in Portuguese azulejos, but the upper layer is much richer in lead than usual and consequently can be fired at a much lower temperature.



**Figure 8: Panel painted by Jorge Colaço in 1932 for the façade of Igreja de Santo Ildefonso, in Porto, Portugal (image from Wikimedia Commons)**

A complete picture of the consequences of this technology can only be achieved through reproductions; however it is entirely plausible that the lower layer only serves to ensure a good connection between the glaze and the biscuit, while the upper layer easily connects to its lower counterpart because they are of the same “nature”. Being low-fusing permits the second firing at a low temperature, avoiding too much spread of the blue pigment and granting the painter the possibility to impart a watercolour-like quality to his art work.



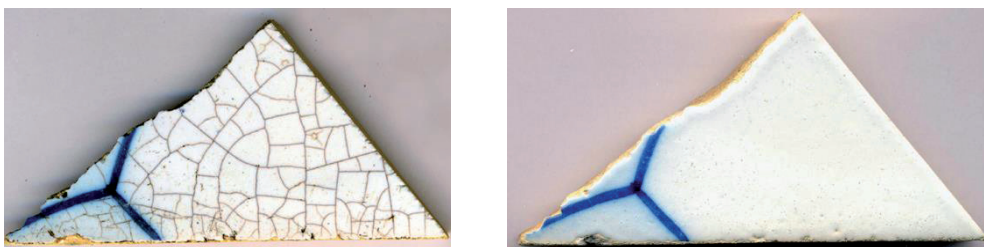
**Figure 9: Left: section of a circa 1930 Portuguese azulejo painted by Jorge Colaço on Fábrica Lusitânia depicting two glaze layers “1” and “2”; Right: detail of the same section showing the interface between layers (HERCULES Laboratory)**

## **8 CONCLUDING NOTES ON THE CONSERVATION AND RETRIEVAL OF THE TECHNO-HISTORICAL VALUE**

A recent publication has shown that azulejos could be restored by re-firing and that when properly used the method permitted recovering the whiteness of the faience, eliminate crazing and generally improve the aspect to an apparent newness (figure 10) which was maybe the only shortcoming of the technique [14]. Another publication pointed that the mere idea of restoring glazed ceramics through the arts of fire brought forth methodologic arguments unparalleled in other restoration methods, and discussed the re-firing of azulejos based on theoretical restoration principles [15].

Cases such as those illustrated in figure 3 show that re-firing in itself is not macroscopically damaging even in the very long run but how does it affect the microscopic information?

Having asserted that azulejos, as most all other artefacts, have a specific techno-historical value derived from information they contained on the technology that produced them, we now consider how this value will be diminished by re-firing at the conditions specified (a maximum temperature of 890 °C for 45 minutes) [14, 15]. The notes offered here are based on the experiments done so far and the extent of our knowledge at present, namely about the temperatures originally attained in the kilns and supposed to be in excess of 900 °C for a relatively long period of time. The reasoning in this section must one day be verified through a lengthy series of experiments using reproductions manufactured under controlled conditions and successively re-fired at increasing temperatures.



**Figure 10: An azulejo fragment before and after restoration by re-firing (image: LNEC, from [15])**

The re-firing of a tile does not introduce new elements in the composition, except, eventually for those available in the air. An azulejo such as illustrated in figure 4 and discussed in section 7.1 will likely not suffer any alteration in the composition of the glaze or, noticeably, in the mineralogical composition of the biscuit. The minute fissures of the glaze around the grains of sand seen in figure 4 may, or not, be conserved depending, not on temperature, but rather on the cooling rate. Any contaminations with organic material will be volatilized (hence the re-acquired whiteness) but those were not part of the techno-history of the tile. They were, however, part of the historicity related with the passing of time and whenever the item shows a patina, the patina will be lost [15]. The re-firing of the tile illustrated in figure 5 and discussed in section 7.2 would, besides, cause the fissures that cross the glaze to close. If they were wide, there would be an internal re-arrangement with morphological distortions and the gas bubbles once crossed by fissures would be rendered elliptical in shape.

The re-firing of a tile such as that illustrated in figure 9 and discussed in section 7.3 at 890 °C for 45 minutes, however, would cause both glaze layers to fuse and likely coalesce, possibly resulting in an indistinct boundary between them. Not only the techno-value would be substantially affected in its most interesting aspects, but also, if the tile was painted, the pigments would likely be displaced and the artistic value of the image, which conservation aims to preserve above all, would at least be altered and possibly even ruined. This last example was chosen to stress that, in this case as in most all others, techniques cannot be applied blindly as each case may have specificities that must be understood before irreversible actions are taken.

The techno-historical value is an important part of the historical value. In faience it is maintained in the fractions even when the object is fragmented. It is unapparent to

most, but that fact does not decrease its importance. That value may be conserved, impaired, or lost following a restoration and, albeit keeping in mind the precedence of the artistic value, the techno-value is certainly worth to be understood, respected and, whenever possible, conserved. It calls for an insight on the technologies behind an artefact and working knowledge of how to obtain the information it preserves. As time goes by, more sophisticated instruments become available and the techno-value increases because more information can be extracted. In its increase with time it parallels the antiquity value but for a different reason and certainly at a much faster rate. Any tools available should be used to the fullest extent and a congregation of knowledges in several fields achieved within the research team is an essential step to accede to the wealth of hidden information which, once obtained, may lead to new finds or, at least, establish on sound scientific grounds the mere conjectures of today.

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# THE IMPORTANCE OF TECHNOLOGICAL KNOWLEDGE FOR THE VALORIZATION OF AZULEJO HERITAGE

Silvia Pereira<sup>1</sup>, Marlucci Menezes<sup>2</sup>, Kate van Lookeren Campagne<sup>3</sup>

<sup>1</sup> Laboratório Nacional de Engenharia Civil (LNEC), Av. do Brasil 101, 1700-066 Lisboa, Portugal, e-mail: spereira@lnec.pt

<sup>2</sup> Laboratório Nacional de Engenharia Civil (LNEC), Av. do Brasil 101, 1700-066 Lisboa, Portugal, e-mail: marlucci@lnec.pt

<sup>3</sup> Amsterdam University (UVA), Johannes Vermeerplein 1, 1071 DV Amsterdam, The Netherlands, e-mail: K.E.vanLookerenCampagne@uva.nl

## ABSTRACT

In this article considerations regarding the importance of recovering and protecting the knowledge of *azulejo* production techniques are elaborated. A tentative overview of the Portuguese *azulejo* production system is made. The method of knowledge transfer through oral dissemination and learning “by observing and executing/imitating” is noted. A comparison is made with the Dutch case, where a larger amount of tangible historic information exists – namely technical treatises and potter’s books - describing the materials, recipes and techniques used for historical tile production. The preservation of this knowledge has allowed potteries (such as Makkum and Harlingen) to continue to use similar raw materials and techniques. This has highlighted the need to create sources of information to contribute to the research and preservation of knowledge regarding Portuguese *azulejo* production techniques. The physicochemical characterization of *azulejos* enables us to draw information about raw materials and production methods. The possibility of gathering information from contemporary *azulejo* artisans has also been suggested, namely those related to workshops and factories. Above all, the article will explore the technical knowledge of *azulejo* production as an important intangible cultural value in the construction/development of *azulejo* as Heritage.

Keywords: Cultural value / Technical knowledge / Methods of manufacture / Azulejo / Tile

## 1 INTRODUCTION

While belonging to the category of ‘Heritage’, glazed tiles (*azulejos*) are particularly valued for their visible aspects: the glaze, the painting, the pattern, the shine. However, besides what we can obviously observe, there exists a whole group of materials, procedures, practices and meanings that cannot be directly seen by an observer. One of the aspects of *azulejos* that is less evident is their technical and material side. In many cases these characteristics comprise of traditional knowledge of production techniques and materials. This technical and traditional knowledge of ‘doing’ is by itself an immaterial heritage that deserves to be researched, understood and documented, also forming an important element of the scientific knowledge relating to the *azulejo*, their conservation and restoration, but also of their value.

Despite the recognition of the importance of the traditional technical-knowledge in the studies of *azulejo* heritage very little is yet known, namely in Portugal. There is little documentation on the subject since the knowledge was usually transmitted verbally and by observation. The most ancient factories/potteries have closed; and many artisan-artists with this knowledge are disappearing. On a different perspective, it is

known that in the case of Dutch tiles, much of the traditional technical knowledge has been recorded and archived in a number of factories/potteries.

The purpose of this reflexion is to give visibility to aspects that are not always made evident in the process of bringing value to *azulejo* heritage. For this purpose, the traditional technical-knowledge should be given priority as a form of valuing this material cultural heritage.

## 2 CONSIDERATIONS ABOUT PORTUGUESE AZULEJO PRODUCTION

Majolica *azulejo* production is believed to have started in the 16<sup>th</sup> century in Portugal after the arrival of Flemish artisans in the country (Nobre Pais 2015, Esteves 2017). Through the 16<sup>th</sup> and 17<sup>th</sup> centuries the production was carried out in independent production workshops/potteries. In the last years of the 17<sup>th</sup> century the generalised adoption of a single colour (blue) simplified the production processes and lowered prices. However, in this period the local workshops also had to develop and improve their technical quality in order to fight imports from the Low Countries (Simões, 2010). In reaction to this, and together with an effort towards the selection of raw materials and improvement of the technology, genuine artists were invited to paint *azulejo* panels bringing about the “Cycle of Masters” which is considered to be the Golden Age of Portuguese *azulejo* production spanning from 1675 to 1725 (Santos, 1957; Salema, 2012).

The period of 1725-1755 was the period of the “Large Joanine production”, so named due to the countless orders for *azulejo* panels paid with the gold from Brazil, together with the onset of the industrial revolution that resulted in ceramic production factories changing from the fully artisanal production to a more rational process (Vasconcellos, 1907). The ceramic factories altered significantly the dynamics of *azulejo* production and commercialization. The need to reduce costs lead to the use of repetition of the figurative panels and the simplification of the paintings. Up to then *azulejo* production and commercialization was in the charge of the “azulejador”. According to Santos Simões, the “azulejador” was a person that had previously worked in the pottery and knew in detail all about the trade. He would advise and direct the clients, support the painters with prints and books, and coordinate all the production process, including the laying in the constructions by the “ladrilhador” (Simões, 2010). With the new work organization factory workers had each a very specific role/function and the former job of the “azulejador” largely disappeared to possibly remain just as the intermediary person between the client and factory (Simões, 2010). In the second half of the 18<sup>th</sup> century a return to the use of other colours was observed, especially in the panel frames. To attain the high quantity of *azulejos* demanded, serial production was organized, with repetition of figurative panels and a prevalence of pattern *azulejos*, making the production faster and simpler. The more demanding figurative architectural coverings are now usually made by wainscots or independent panels without the complete covering and dedicated integration of the *azulejos* on the walls (Simões, 2010).

After the Lisbon earthquake (1755) there was a need for reconstruction, which, together with the efforts of the Marquis de Pombal towards industrialization, lead to the increased development of serial production and the use of simple and quickly executed pattern *azulejos*, constituting what is now called *Pombalino style* (1755-1780) and *D. Maria style* (1780-1808) (Salema, 2012). The *Real Fábrica da Louça* or *Fábrica do*

*Rato*, initiated its activity in 1767, but it is uncertain when it started to produce *azulejos*. It had a focal role in the creation and instruction of many ceramic factories in the country (Simões, 2010). Vasconcellos mentions that in the 18<sup>th</sup> century the number of factories was already large, estimating it to be 20 to 25 in the whole country, and they were spread throughout the territory but mostly in Lisbon, Porto, Coimbra and Viana do Castelo. He also mentions that in the 18<sup>th</sup> century all factories constitute a “big family” that has multiplied itself during four generations throughout the century without any of them questioning their “common tradition” (Vasconcellos, 1907).

The “transfer printing” decoration process was invented in 1758 in England. This process involved the transfer of the decoration from a copper plate to paper and then to the already glazed *azulejo* surface. The *azulejos* would then be subject to firing at a lower temperature and shorter periods of time therefore producing decorations subject to wear (Costa, 2013). In the second half of the 18<sup>th</sup> century the “ironware” composition was invented by an English potter by mixing clay without iron oxide and finely ground quartz and firing it until the body had no porosity. According to Costa (2013) it is however only during the 19<sup>th</sup> century that a series of English developments in ceramic industry lead to a production revolution in that country. In 1830 a lithographic process was developed that allowed the colours to be applied directly on to the *azulejo*. But at this point the *azulejo* was still hand moulded, limiting the rate of production. Then in 1835 the manual mechanical pressing of *azulejos* was invented allowing a faster serial production and the transition from the hand-moulded clay paste (that was more subject to defects and would require long drying time), to the more reliable and fast low humidity “dry process” - pressing technology. This enabled the production of thinner *azulejos* with an even thickness. In 1873 the first steam *azulejo*-press was used in England permitting mass production at reduced prices (Costa, 2013).

Despite the English developments; due to the late coming of the full industrial revolution in Portugal it is unsure when these novel industrial technologies were introduced in the country. But it is believed that industrialization started to be implemented during de decade of 1830-1840 (Antunes, 2007). Up to World War I the industrial growth was not significant and during the first half of the 20<sup>th</sup> century a slow industrialization was observed (Antunes, 2007). As commented by Costa the historical information available regarding the production chain processes of *azulejo* factories producers is scarce, contradictory and fragmented (Costa, 2013).

The beginning of the 19<sup>th</sup> century up to around 1840 was marked by foreign invasions, civil war and unrest. It was a time of a decreased market for *azulejos* in constructions with obvious consequences deriving from a sharp reduction of production. By the second half of the 19<sup>th</sup> century demand returned and they were used for the tiling of urban buildings façades (Simões, 2010).

By the end of the 19<sup>th</sup> century the improved control in the selection of clays led to the development of “pó de pedra” ceramics, a local adaptation of the English “Ironstone”. White iron-free clays were mixed with silica dust in order to obtain a pure white ceramic that could be decorated directly over the biscuit and finished with a transparent glaze. It was used in Lisbon factories such as Sacavém and Alcântara. The hand-moulded *azulejos* become then formed with mechanical hand presses until the use of steam pressing (Costa, 2013). The production of “pó de pedra” *azulejos* coexisted with the one from calcitic clays.

At a time when painters had largely abandoned *azulejos* as an artist’s material, Jorge Colaço (1868-1942) chose to start his career anew using them for a canvas. He introduced to the medium novel and controversial painting techniques such as painting

over the already fired glaze with low-fusing smalts of many colours that were again fired in a reverberation kiln, or the use of serigraphy for repetitive patterns. His technique was considered risky by Vasconcellos due to the possible danger to the material stability and decrease of durability. His technique, however, allowed the introduction of a full colour palette in the *azulejo* panels creating highly varied and coloured masterpieces, sometimes including gold and silver details that grace many buildings to this day including the matchless São Bento train station in Porto.

During the 20<sup>th</sup> century modern electric/gas kilns have been introduced and their practicability and reliability, lower pollution and economic advantages have resulted in a cessation of the use of wood-fired kilns. This phasing out of an old technology can lead to the loss of the highly-specialized knowledge held by the operators of these kilns. Also during this century, high calcium content clays have mostly stopped being used due to process optimization concerns. Due to safety concerns lead glazes are now also avoided. Even if in some cases the traditional manual technical processes of producing *azulejos* and the final aesthetic results have been retained, the *azulejo* raw materials and final composition, the *azulejo* “matter”, is not at all similar to the traditional majolica *azulejos* with a consequent loss of the associated knowledge of these materials use for *azulejo* production.

### **3 THE DUTCH CASE AND THE NECESSARY VALORIZATION OF THE TECHNICAL KNOWLEDGE**

The production of tin-glazed majolica started in the late 16<sup>th</sup> century in the Northern Netherlands with Italian potters that emigrated from Antwerp (van Lookeren Campagne, 2015).

During the following two centuries, the production of tin-glazed tiles (*tege/s*) grew into an important industry with significant production centres developing in cities and towns including Gouda, Haarlem, Delft, Utrecht, Rotterdam, Amsterdam, Harlingen, Bolsward en Makkum. During the 17<sup>th</sup> and 18<sup>th</sup> century millions of tiles were produced in the Northern Netherlands and an extensive export trade grew within Europe and beyond. The 17<sup>th</sup> century was a period of rapid economic and political change in the region and this was reflected in the production of Dutch tin-glaze tiles until the mid-18<sup>th</sup> century when production began to decline.

Dutch potteries, as with the Portuguese, were keen to protect their knowledge and did not make the details of the production techniques used easily available. However, some registrations of the production techniques from the 17<sup>th</sup> and 18<sup>th</sup> century have been kept (Paape, 1794; Sijbeda, 1712; Feijtama, 1725) together with information revealing clay sources such as the imported the marls from England (Van Lookeren Campagne, 2015; 2017). Paape’s treatise presenting the most comprehensive information on Delft production including the composition of clays and glazes as well as prints of the techniques and tools used (Lambooy, 2013). In some potter’s manuals the clay mixes and glaze recipes have been retained together with information about the firing results (Sijbeda, 1712; Feijtama, 1725). The existence of these pottery books enabled the maintenance of the memory of the ancient production techniques and recipes. Lambooy remarks, for instance, that the original tin-glazing technique is still practised nowadays by the Koninklijk Tichelaar Makkum and the Harlingen factory in Friesland in The Netherlands. It is known that these potteries still prize themselves for their use of the same sources of clays for their tiles body preparation (P.J. Tichelaar 2001) and, while valuing the technical development of new glazes, they also does research historical ones.

In Portugal while many manual technical aspects of *azulejo* production and painting have been maintained, as said before the “matter” (clay – glaze – pigments) of the *azulejos* are largely different due to the loss of knowledge, safety concerns, process optimization and economic factors. Besides the fact that *azulejos* are advertised as being produced according to “ancient production methods”, they are in fact mostly made using hand production techniques but with “material” that is by no means according to the proclaimed “historical production” methods. This “material” that “cannot be seen” on *azulejos* is, however, part of the *azulejo* itself and the knowledge of how to produce it in a completely traditional way it’s an *azulejo* immaterial value, is important for the understanding of *azulejo* as an all and for their conservation–restoration actions.

Knowledge of the ancient and traditional *azulejo* production techniques can be found through three possible routes: the research of historic sources, the physicochemical and mineralogical analysis of the *azulejos* themselves, and through communication with artisan-artists (contemporary).

## 4 THE AZULEJO’S TECHNICAL KNOWLEDGEMENT

### 4.1 THROUGH HISTORICAL RESEARCH

Written sources regarding ancient majolica production techniques are very scarce. The *azulejo* artisans did not disclose their production procedures easily and there are little known registration of the materials and techniques they used. However, some technical treatises do exist and further historical research into archives factory inventories, port records, newspapers, and testimonies could shed some light on the origin and preparation of materials and production techniques.

The late 16<sup>th</sup> century Italian ceramic treatise from Cipriano Pilcopasso (*Li Tre Libri dell’Arte del Vasaio*) is the oldest technical source for majolica production. In Pilcopasso’s book recipes about the production of glazes and pigments are provided together with descriptions of production techniques, materials and equipment used for making general majolica items. This work is particularly important since it is known that the majolica technique originated in Italy and propagated throughout Europe, arriving in Portugal at the end of the 16th century via artisans from Antwerp that started to work in the country (Nobre-Pais, 2015; Lurdes, 2017). We may therefore assume that the technology used in Portugal at the beginning of majolica production was based in this contemporary knowledge probably with local alterations to accommodate the raw materials and knowledge that already existed in Portugal.

Several documents relating to the Dutch tin-glaze production, including recipe books, kiln records and legal documents provide information regarding the Dutch technical knowledge in the 17<sup>th</sup> and 18<sup>th</sup> centuries (Van Lookeren Campagne, 2015). The first technical manuscript on Dutch majolica production, even if not specifically relating to tiles, was from the German Johann Kunckel (possibly 1637-1688) entitled “Von der Holländischen kunstreichen weissen und bunten Topffer- Glasur – und Mahlwerck, (von etlichten Hollandische Barcellan – Arbeit genennt) as a part of his book on glass *Ars Vitrarya Experimentalis* (Kunckel 1679) with information regarding the Dutch tin-glaze recipes and firing techniques. The rare recipe book from Petrus Sijbeda (1712-1724) a tile and majolica producer from Harlingen (Friesland), provides detailed information regarding the clay and glaze preparation, drying of tiles and other aspects he considered relevant (Lambooy, 2013). While the kiln book from Feijtema Tjallingii

(1725) also provides unique technical sources regarding the Dutch tile production such as glaze recipes, describing firing problems and attempts to solve them (Van Lookeren Campagne, 2015). Paape's 1794 treatise "De Plateelbakker of Delftsch Aardewerkmaaker" (Paape, 1794), describing Delft majolica production between 1788 and 1820 provides - after Picopasso's - the most detailed technical source about tin-glaze production (Lambooy, 2013). His work provides formulae for the composition of clay and glazes (even if questions are posed as to the accuracy of the recipes) and includes prints showing the techniques and tools used. Lambooy also comments that the techniques described in Paape's treatise, that was written about one century after the Dutch Golden Age and the glory days of Delft pottery Industry, are very similar to the Italian process described by Picopasso's 16<sup>th</sup> century work. Pointing to the fact that, despite possible technical optimizations in the procedures, they have probably not changed much during this time span (the 16<sup>th</sup>-to the beginning of 18<sup>th</sup> centuries), the main changes probably consisting of the glaze and clay- mixture recipes.

No written works describing Portuguese majolica technical processes from this period are known. This is possibly due to prevalence of the transfer of knowledge through oral and experience by observation/imitation rather than information documentation. However at the beginning of the 19<sup>th</sup> century French technical encyclopedias such as *Arte do Louceiro* (1804) from José Ferreira da Silva and 'Arte da loiça vidrada' (1804) Antonio Velloso Xavier (1805) were translated into Portuguese and made available. In 1828 another ceramic production treatise appeared in France: "L'Art de Fabriquer la Faïence Recouverte d'un Émail Opaque Blanc et Coloré" from F. Bastenaire-Daudenart which collects information about the techniques used when the author was the owner of a French ceramic factory founded in 1705. Keeping in mind the possible differences between techniques used for utilitarian majolica and tiles, it can be concluded that the manual production did not alter much until the introduction of pre-industrial processes and therefore that these manuscripts are probably reflective of the materials and techniques used in earlier centuries. Extra insight regarding 18<sup>th</sup> and early 19<sup>th</sup> century clay/glaze recipes can possibly also be retrieved through the Dutch sources. Regarding the 19<sup>th</sup> century, Charles Lepierre studied the clays used in the Portuguese ceramic industry (Lepierre, 1899). Also the exhibition catalogue "Real Fábrica de Loiça ao Rato" (Esteves 2003) contains details from the factory archives regarding information such as the raw materials used and comments about their majolica production. This constitutes to our knowledge the most detailed written source of information on traditional Portuguese production techniques.

## 4.2 THROUGH CHARACTERIZATION AND REPLICATION

Other source of information about raw materials and production techniques is obtained from the physicochemical and mineralogical characterization of the *azulejo*. The increasing development in the analytical techniques allows an ever increasing degree of information that can be taken from materials characterization about production technology. Insight into the raw materials used, clay and glaze composition, process sequence, firing temperature, oxidising/reducing firing atmospheres and their possible geographical provenance can be obtained via this type of analysis.

Although many art historical studies about Portuguese *azulejos* exist, only a few studies on the physical, chemical and mineralogical characterisation are available which relate the analysis to *azulejo* productions techniques.

For instance Vieira Ferreira characterized the biscuit, glaze and pigments of Portuguese utilitarian/decorative majolica and from the 16<sup>th</sup> -17<sup>th</sup> centuries (Vieira

Ferreira 2013a; 2013b; 2015a; 2015b) where, besides insight on the raw materials used, the firing temperatures have also been proposed. These studies were performed on utilitarian/decorative majolica objects where we may assume that the production techniques are probably similar but attention needs to be played since extra care was probably been put into the selection of raw materials and production processes the utilitarian/decorative objects. A detailed study of Flemish tiles from the Vila Viçosa Paço was undertaken (Mimoso, 2013) where consideration of the production techniques was also taken.

Regarding Portuguese majolica *azulejos*, in the few chemical-mineralogical characterization studies where the production techniques have been considered, the results have usually considered small sets of *azulejos* and the majority of them just focused on the pigment and glaze analysis. Some information exists regarding production techniques and materials of 17<sup>th</sup> *azulejos* (Coentro, 2010; Coentro, 2012; Coroado, 2003), as well as 16<sup>th</sup> to 18<sup>th</sup> glaze and pigments (Guilherme 2011), 17<sup>th</sup>-18<sup>th</sup> (Pereira, 2011) and 19<sup>th</sup> (Costa, 2013) 19<sup>th</sup>-20<sup>th</sup> (Sanjad, 2009) centuries can be withdrawn from these studies. Their analysis reveals, however, the need to do a systematic characterization of the several periods of Portuguese *azulejos* production, on pigments, glaze and body focusing on retrieving specific production technology information.

In addition to these analyses, tentative replications of the possible production procedures using similar materials and techniques would allow a better understanding of the production processes and resulting *azulejos* characteristics. Some effort on reproducing the ancient *azulejo* bodies has been made for the 18<sup>th</sup> century Lisbon *azulejos* (Pereira, 2015) and 19<sup>th</sup> century northern Portugal (Costa, 2013). While allowing to understand much of the production of calcitic body productions (Pereira 2015; Costa, 2013) and “pó de pedra” (Costa, 2013), both these studies tried to replicate the *azulejos* based on its previous physical-chemical characterization without the support of information regarding the production recipe or type of raw materials and their sources due to the absence of this information. Due to the difficulty in obtaining marls and to simplify the research, calcite has been added to the clays when preparing the calcitic pastes and electric kilns have been used instead of wood fired kilns (that have lower oxidation). The on-going study on 17<sup>th</sup> -18<sup>th</sup> Dutch body tiles reproduction based on existent recipes (Sijbeda, 1712; Feijtema, 1725; Paape, 1794) and collection of clays from registered raw material sources is studying the effect of calcite when included in the marl vs synthetic calcite as well as the effect of using a wood-firing vs an electrically-fired kiln (Van Lookeren Campagne, 2017).

#### 4.3 THROUGH ORAL NARRATIVES FROM ARTISANS-ARTISTS AND FACTORY WORKERS

The study of the materials, techniques and processes of creating, producing and applying tiles is important for the valorisation of *azulejo* heritage. Research into written/historical sources and material characterization is essential but does not tell us everything about the *azulejos*. Recovering materials, recipes, tools, drawings, knowledge and techniques of “doing” through actions and words is a way to give significance, value and recover the lived experiences retained in memory by the workers of *azulejo*.

During the last decades an increasing deindustrialization of the cities and consequent conversion of its facilities into urban projects is observed. Some of these conversions keep parts of the ancient memory and others completely erase their identity (Antunes,



2007). In the middle of the 20<sup>th</sup> century global conscience was taken about the importance to preserve and study the important signals to preserve the memory of this heritage appearing the "Industrial archaeology" concept (Antunes, 2007). Chamoux (2010) considers the technical production knowledge know-how as "the body of knowledge and conscious or unconscious human knowledge that allow the implementation of a technique. The know-how can be gestural and intellectual, collective and individual, depending also of the relations between men and the relationship between the laws of matter."

In Portugal the heritage regarding tiles production factories is in a vulnerable situation but also has high potential. It is therefore important to study and register the still existing tangible and intangible sources in order not to lose them forever. But how can we recover this experience?

By direct communication with factory artisans-artist another source of information can be added to the historical investigation and *azulejos* characterization/reproduction. Besides further technical-scientific information it allows the reconstruction of the reality of the working factory enriching it with sociologic information. The use of the oral history or oral source/narrative methodology is essential in the gathering of information related to the technical knowledge know-how. Through oral interviews with artisans-artists and processing of the collected information, new tangible sources are created that ensure the preservation of the memory of the factories and perpetuate the technical knowledge related to *azulejo* production. The role of the *azulejo* artisan/artists producers is valued and the importance of the technical knowledge highlighted.

For *azulejo* production factories, it is of importance to collect and register information from workers-artisans-artists in a systematic way regarding both ancient and new production techniques, tools and materials used. In the case of *azulejo* production factories, relevant information could be systematized in the following topics: 1) Provenience of the clays used, glazes, pigments and other necessary materials; 2) Organization of the production chain; 3) The different professions existent in the factory and how they interact; 4) The characteristics of the work force (gender distribution, education, number and variation throughout the years); 5) The work schedules and existence or not of differences with seasons; 6) The type of *azulejos* produced (existence of catalogues), 7) commercialization/distribution and 8) The production-chain techniques and tools: for clay preparation, *azulejo* body molding/pressing, *azulejo* drying, *azulejo* body firing, glazing, decorating and finally for *azulejo* firing (adapted from Antunes, 2007).

When we consider a factory that is no longer functioning, such as the Constância Factory that ceased its activity in 2001, it is of special importance to gather this information since the knowledge-transfer chain regarding *azulejo* production processes was stopped and is therefore at risk.

#### 4.3.1 A study in perspective: memories of the workers of the Constância Factory

The Constância Factory produced majolica from 1836 up to 2001 when it closed. Situated in Lapa, a quarter of Lisbon, it produced several types of *azulejos*, mostly for the tiling of building façades, but also works by renowned artists such as Wenceslau Cifka and Leopoldo Battistini (also the factory owner) and architectural *azulejos* in the Art Nouveau style. A documentary was made during the Leopoldo Battistini period before 1929 by *Companhia Cinematográfica de Portugal* showing the factory's artisanal majolica and *azulejo* production processes. The clay preparation (Figure 1), *azulejo* production (Figure 2), glaze preparation and glazing (Figure 3), painting and

firing (Figure 4) are depicted in this video. In the final years of production large public art panels were produced by the factory such as João Abel Manta's large Gulbenkian Avenue wall and the Ivan Chermayef Lisbon Oceanarium façade *azulejos*.



Figure 1: Clay and paste preparation. Video print screen (Matos, 2014)



Figure 2: Azulejo molding and straightening. Video print screen (Matos, 2014)



Figure 3: Grinding of the glaze, glazing the *azulejos* and correcting the glaze layer. Video print screen (Matos, 2014)



Figure 4: Stencilling, free hand painting and firing. Video print screen (Matos, 2014)

Although historical research into the Constância Factory will aid knowledge of the factory azulejo producing process, much will still need to be done to better understand the techniques and knowledge associated with its production. Much of this knowledge has been transmitted down the generations, without written or physical records of these processes. Regarding the importance that this knowledge has in the field of conservation, restoration and valorization of azulejo, the creation of such knowledge sources is extremely important.

## 7 FINAL NOTES

The value of the knowledge of immaterial production procedures is currently not much considered but is an essential component of our understanding of the *azulejo* as Heritage. This article has tried to underline the relevance of investing in the research of

technical knowledge for understanding the cultural value of *azulejo* heritage. Not intending to present an exhaustive description of this knowledge the state of the art reveals however the need to perform extra research through the three types of sources that can allow recreating it: historical investigation, materials characterization/replication and communication with artisans-artists/factory workers. It highlights the fact that there is more to *azulejos* than just ‘what we see’ and that the value attributed to *azulejos* is related to their production technique. The technical knowledge of *azulejo* is therefore a value that supports the construction of *azulejo* as Heritage and should therefore be studied, protected and disseminated.

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# PORTO'S CRYSTAL PALACE: BETWEEN IMAGE AND MEMORY

**Vera Gonçalves**

Faculty of Arts of the University of Porto, Via Panorâmica s/n, 4150-564 Porto, Portugal,  
e-mail: up201306197@letras.up.pt

## **ABSTRACT**

This study is the result of an ongoing and consequently deepening investigation that aims to bring a new look at Porto's Crystal Palace opened in 1865, still shrouded by a great nostalgia from its contested demolition in 1951. Thus, it is intended to understand the image that remains of the old Crystal Palace and the image created around the Pavillion Rosa Mota designed by José Carlos Loureiro (b. 1925). Furthermore, we try to understand how the image of the nineteenth century building remains in the memory of those who live and visit Porto and we reflect on the need of patrimonial communication programs in this context.

Keywords: Crystal Palace / Pavillion Rosa Mota / Porto / Memory

## **1 INTRODUCTION**

Nowadays known only through photographs, illustrations or film records, Porto's Crystal Palace is seen as a mark of progress in the city's nineteenth century history, remaining in the people's memory and even in the memory of those who did not know it.

The second half of the nineteenth century was marked by the development of the iron architecture, which, despite having existed since earlier times, received a larger visibility in this period due to the international exhibitions in which the United Kingdom took the lead with the inauguration of the Crystal Palace in 1851.

It is also in the context of the promotion of the industrial sector in Portugal that around 1850 Porto witnessed a progress with social, artistic and cultural repercussions. As such, a Crystal Palace was built in the city, which would be later destroyed in the twentieth century and replaced by the Pavillion of Sports. This situation still ignites public opinion about the modernist building.

Thus, talking about Crystal Palace means talking about what Vítor Serrão called Crypto-History of Art considering that it represents a mark in the city's historical and social evolution (SERRÃO, 2001: 11).

However, we question whether the local and visitor communities actually know of the old construction or if the nostalgia that marks the public opinion results from the idealization of a space and the permanence of its designation amongst the population. In order to contribute to this issue a survey was made to the Faculty of Arts of the University of Porto (*Faculdade de Letras da Universidade do Porto*) academic community, aiming to understand the perception that the people of Porto and those who visit it have on the subject, the changes that the space has seen over time and the

changes that are proposed for the future. This work results also from a bibliographic review, along with an analysis of patrimonial doctrines.

The present article is justified by the need to "know and study" (Almeida, 1998: 21) the nineteenth century building, demystifying it and freeing it from the nostalgic aura in which it is still hidden so that it can be valued in the present, preserving its memory and safeguarding the Pavillion Rosa Mota.

## 2 FROM CRYSTAL PALACE TO PAVILLION ROSA MOTA

The idea of hosting an industrial exhibition in Porto was first presented by Veríssimo Álvares Pereira to the Porto Industrial Society (*Sociedade Industrial do Porto*) in 1852. This artist, an admirer of London and Paris' exhibitions, considered these events as «a new and perhaps without similar development for the generalization, advancement and progress of the arts» (ALVES, 1999: 70). However, its proposal would only know results in 1857 with the realization of an exhibition promoted by the Porto's Agriculture Society (*Sociedade Agrícola do Porto*) in *Campo da Torre da Marca*.

In this context, there were national agriculture and industry exhibitions that justified the creation of the Palace's Agriculture, Industrial and Artistic Society (*Sociedade do Palácio Agrícola, Industrial e Artístico*), which aimed to construct a building capable of housing these exhibits. On the 30th of August, 1861, a group of prominent and wealthy Porto's citizens gathered in *Palácio da Bolsa* to determine the foundations of this society, which would be called the Porto Crystal Palace Society (*Sociedade do Palácio de Cristal Portuense*), in line with the name of the building they were going to construct. The project was then commissioned to the british architect Thomas Dillen Jones, with later intervention by the engineer F. W. Shields.

The ceremony of the laying of the first stone was made by Dom Pedro V (1853-1861), on the 3th of September, 1861, taking advantage of a monarch's visit to the city. He saw the initiative as an opportunity of progress for the country, signing up as the Society's first shareholder, even though he did not see its final result. All this effort would culminate with the inauguration of the building in September of 1865 with the first Portuguese International Exhibition, with an attitude of clear boldness carved in Porto's Crystal Palace's façade where *Progredior* could be read.

Since its inception, the Porto's Crystal Palace Society had a poor financial panorama. They constantly tried to overcome this situation by resorting to measures like the instauration of entrance fees to visit the building and its gardens, which made it an elitist space.

A succession of events dictated that the Society would never be able to stabilize its situation, ending up on the sale of the property in 1934 to Porto's Municipal Hall (*Câmara Municipal do Porto*). It was in fact in a bad state of degradation since there was not enough means of guaranteeing its maintenance.

However, its sale was not sufficient to carry out the necessary works and the condition was aggravated. This led the city's Municipal Hall to decide in 1951 to demolish the building under the pretext of building a Pavillion of Sports that would host the European and World Roller Hockey Championships, to be held in 1952. Therefore, it was intended that this new architecture would adapt (like its predecessor) to «cultural, sporting, economic and social achievements» (*Câmara Municipal do Porto*, 1951: 810).

As such, the demolition began on the 17<sup>th</sup> of December, 1951, and the survey of the new building began in February 4, 1952, with a project by the architect José Carlos Loureiro.



**Figure 1: Digital reproduction of an illustrated postcard over a photograph of Emilio Biel. Porto's Crystal Palace (1900). *Arquivo Histórico Municipal do Porto*.**

It is, however, interesting to note that the Porto's Crystal Palace Society's articles established that the property would have a permanent character (SANTOS, 1989: 279). Indeed, its destruction would not be done without the rising of many voices against it. However, it was not considered that an industrial building had a permanent character (LIMA, 1996: 32). The unanimity of the opinions presented at the meeting in Porto's Municipal Hall, in 1951, which underlined the need to adapt the space to new times, praised the nineteenth century building (Câmara Municipal do Porto, 1951: 775).

The Pavillion of Sports served as the stage for multiple sport, political or industrial events until the end of the 80's decade, but it also ended up in abandonment, renamed as Pavillion Rosa Mota in 1990. It reopened to the public in 1991 after restoration interventions by the Faculty of Architecture of the University of Porto (*Faculdade de Arquitetura da Universidade do Porto*) and the technicians of the *Serralves'* Foundation in the gardens (MARMELO, 2000: 27; 56).



**Figure 2: Digital photograph's proof. Pavillion Rosa Mota and garden of Emilio David**

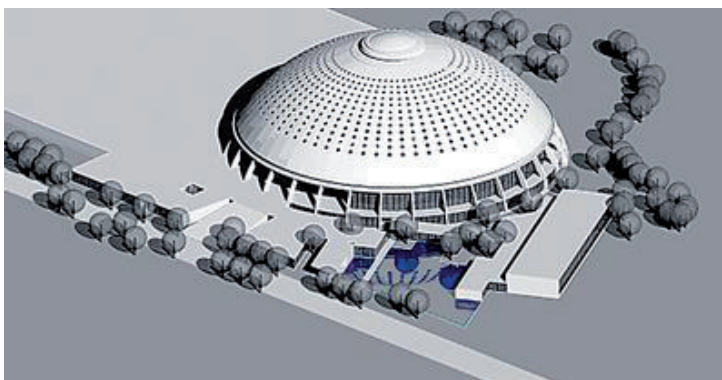


### 3 CORRENT ISSUES

If Camilo Castelo Branco (1825-1890) in *Bruxa de Monte Córdova* (1867) depreciatingly described the Crystal Palace as «*circus-bazaar-theatre-restaurant-gymnastic-pyrotechnic*» (cit. SANTOS, 1989: 182) due to the coexistence of multiple activities in the same space, it is precisely this lack of polyvalence that nowadays is pointed against the Pavillion Rosa Mota. Thus, the construction in *Matosinhos* of *Exponor* in 1987 brought to the city the necessary space for large fairs and international congresses that the Pavillion of Sports could not receive (MARMELO, 2000: 62).

Since 2007 projects of requalification have been made in the building. It was initially proposed the construction of a Congress Centre next to the lake of the gardens, designed by the same author of the Pavilion. It would have the capacity for seven thousand people, compared to the approximately four thousand that it currently houses (BELÉM, 2011).

However, the plans were the target of innumerable criticisms, ending up as the origin of the Movement in Defence of Crystal Palace's Gardens (*Movimento em Defesa dos Jardins do Palácio de Cristal*), a defence movement for the gardens of the palace which was against the negative impacts and destruction of the vegetal heritage of the surrounding space.



**Figure 3: Digital project for Pavillion Rosa Mota, designed by José Carlos Loureiro.**  
Available at: <https://www.publico.pt/local-lisboa/jornal/requalificacao-do-pavilhao-rosa-mota-a-beira-de-perder-o-financiamento-do-qren-23018811>

This contestation resulted in a modification of the project. It was proposed that the place of its construction was moved to the lateral area, over the underground car park, a decision that seemed to calm the citizens' anger (MARMELO, 2010).

However, this proposal did not materialize and only in 2014 would Porto's Municipal Hall announce the opening of a public contest for the exploration of the Pavillion Rosa Mota for a period of twenty years. The purpose of the concession was to «ensure first of all the rehabilitation of the building, which nowadays suffers a big structural degradation» (CARVALHO, 2014), putting aside the projects of additions that presupposed an intervention in the gardens. After a recent call for proposals carried out by the company *Porto Lazer*, the Pavillion Rosa Mota was awarded the *Porto 100% Porto* consortium (CARVALHO, 2016).

It is recalled that the property was in the process of being classified and the process expired under the terms of the 78th article of October 23th's Decree-Law number 309/2009, which establishes that «the procedures for classification of immovable property shall expire if the final decision is not taken within one year of the entry into force of the present Decree-Law».

## 4 ABOUT THE PLACE'S MEMORY

The memory of the old Crystal Palace is still alive amongst Porto's citizens, who see its destruction as a loss to the city. Its substitution by the Pavillion of Sports is seen unfavourably, and it is the target of numerous disparaging nicknames about its architecture.

As a consequence, the terms Heritage and Memory are inseparable. The *Quebec Declaration on the Preservation of Spiritu Loci* associates memory with intangible elements, «which give meaning, emotion and mystery to a place» (ICOMOS, 2008: [2]).

We should note, for example, the initiative to elect the Seven Wonders of the Missing Porto, carried out by a Facebook page, created with the aim of making known to all the lost city's heritage. The voting took place in March of 2015 and the first place was occupied by Crystal Palace, with 744 of the 5457 votes. The initiative received wide recognition in the public press, contributing to the dissemination of the image of the nineteenth century building. However, we should be aware that this does not translate the vision that the Porto's citizens have of their lost heritage. As it is an online vote and therefore publicly accessible page, people from other parts of the country have participated in the voting.

On the other hand, the comments that are read on the page reveal a great nostalgia, evoking memories of a past time and simultaneously denoting the desire to reconstruct the nineteenth century building (even if in a different place). It is in this panorama that we witness the emergence of pro-reconstruction movements of the Crystal Palace. The motivation behind it is based on the idea of what the building represented, "autonomy, independence, ability to undertake" (CEREJO, 2013).

In the above-mentioned survey, 46.3% of students claim to agree to the reconstruction of the nineteenth century building. We can, however, and based on the justifications given to the question, ask whether the population really knows the construction that occupied the space until 1951. It was observed that many times the Crystal Palace is confused with Pavillion Rosa Mota, especially between the people that are not from Porto, for which contribute the gardens and the toponymy that remains. The function reaches such prominence in the definition of the building that prevails, although the original use has become extinct (GONZÁLEZ-VARAS, 2015: 175). When the answer to the question «Do you consider that the Crystal Palace should be rebuilt?» is negative (19.5%), the motivations are related mainly to the costs that the enterprise would entail for the municipality.

However, this is not exclusively a national reality. The British, responsible for the construction of the first great palace of international exhibitions and ideological model of Porto's Crystal Palace, intend to see reconstructed its Crystal Palace destroyed by a fire in 1936. The intention was revealed in 2013 by Boris Johnson (b. 1964), at the time Mayor of London, and by the Chinese group ZhongRong (COOPER, 2013), although no developments have yet been made.

It should be noted that any reconstruction, whether in the Portuguese or the London case, would be nothing more than a *pastiche*, even running the risk of becoming what is designated as a theme park. Indeed, international doctrine argues that «reconstructions of significant parts of a building should be avoided, based on what the officials consider to be their true style» (Conferência Internacional sobre Conservação, 2000: 4) something stated since the *Charter of Venice* (1964), where the idea of reconstitution was already condemned.

## 5 PATRIMONIAL EDUCATION PERSPECTIVES

The different records that exist regarding the Crystal Palace, whether photographic, videographic, or even bibliographic, are scattered, making it difficult to read and analyse the building in its diachrony.

As such, it is considered that its organization and treatment would be beneficial in order to make it possible to communicate its history to the community according to the principles advocated by international doctrine. However, it is not our objective to present a proposal here, but rather to reflect on the issue.

Ever since the *Charter of Athens* (1931) the importance of education for raising awareness about the need to preserve heritage has been progressively emphasized. Yet, it is not the case here, in the first instance, of preservation in its physical sense, but of the preservation of memory, which should not be based on premises of nostalgia. In this context, the *Council of Europe Framework Convention on the Value of Cultural Heritage for Society* addresses the need for «initiatives that promote the quality of content (...) in the information's society» (Council of Europe, 2005: Article 14). This quality is based on principles of scientific rigor in the information transmitted, and should have a multidisciplinary approach (ICOMOS, 2008: [1]).

Communication and heritage education are thus understood as basic points for the valorization and safeguarding of assets and preservation of the spirit of the place (ICOMOS, 2008: [4]), and should be guided by the accessibility of the information, by its availability in different languages and adaptation to different audiences, amongst many other principles.

In this context, it is the integration of the community in issues related to cultural heritage by the recognition of its importance in the transmission of its knowledge, encouraging interactive communication (ICOMOS, 2008: [4]), which promotes contact between the community and the visitor (Council of Europe, 2005: Article 14). We can include at this point the question of the oral testimonies of those who attended the Crystal Palace's Gardens in their childhood.

Thus, communication reveals its importance in the preservation of the memory, elucidating local history. This aspect should be integrated into formal and non-formal education. Take, for example, the case of the Crystal Palace in London. Perhaps because it was destroyed by an accident and not by political motives, its image is constant in the city's museums, either through pictures that include the royal family or models, or even digital reconstructions in online platforms.

Despite the fact that the Crystal Palace is a missing object, there are many possibilities for its exploitation and presentation.



**Figure 4: Digital photography proof. London Crystal Palace's Model (acrylic, brass and Alaskan cedar) made by Richard Armiger in 2001. Owned by the Victoria and Albert Museum**

## 6 CONCLUSIONS

In conclusion, it is considered necessary to have a new vision about the Porto Crystal Palace, one that departs from the nostalgic aspect that until now has been dominating and that through a more in-depth knowledge about the space can propose the creation of a communication program and heritage education.

In fact, a better clarification on what was the Crystal Palace and the reasons that dictated both its construction and its replacement may also contribute to a greater appreciation of Pavillion Rosa Mota, a space that nowadays has the need of urgent rehabilitation, a need to which Porto's Municipal Hall has been trying to respond. On the other hand, it should be noted that Thomas Dillen Jones' building was also received negatively in its time, and his critical fortune is conditioned by demolition.

To rebuild what disappeared would only be an evocation of the building and never a return to the ideals behind its creation. Its memory must be preserved as an integral part of the city's history, taking into account that the *Spiritu Loci* itself "takes over a plural and dynamic character" (ICOMOS, 2008: 2). Thus, the history of the two buildings becomes inseparable.

It should be especially noted that each historic period seeks to leave its mark and each intervention should be looked according to the time in which it took place. The Crystal Palace marks the architectural language of a period, but so does the Pavillion Rosa Mota, adapting the place to the needs that were imposed and remaining a reference example of modernist architecture in Portugal. Therefore, we question if the José Carlos Loureiro's building wasn't inspired by the idea of Crystal Palace, by the inclusion of a metal (copper) in the exterior coat and by the glasses that create a diffuse light inside, a question to which only the architect can answer.

We conclude with Carlos Alberto Ferreira de Almeida's words when he affirms that «(...) heritage cannot be seen only (...) as a memory or nostalgia for the past, but rather as something that must be part of our present» (ALMEIDA, 1998: 17), noting that, despite all the controversies, the modernist building has already become a symbol that marks the city's silhouette, with an open future.

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# IS IT MUSEUM-WORTHY? MANUEL DE MACEDO'S ACTIVITY AS AN ART EXPERT WITHIN THE SUPPRESSION OF RELIGIOUS ORDERS

**Vera Mariz**

ARTIS – Instituto de História da Arte, Faculdade de Letras da Universidade de Lisboa, Alameda da Universidade, 1600-214 Lisboa, Portugal, e-mail: verafelixmariz@gmail.com

## **ABSTRACT**

The suppression of monasteries and convents, the expropriation, nationalization and sale of all regular religious orders' property caused quite a stir in the 19th century Portuguese art market, thus leading among other aspects to the rise of art experts. Manuel de Macedo, National Museum of Fine Arts' curator, was one of those art world figures who throughout the second half of the 19th century determined whether the confiscated movable assets were museum-worthy. Saint Mary of Arouca was one of the monasteries where Macedo carried out his activity, thus reflecting on the artistic and historical values of the tangible cultural heritage under scrutiny. Despite Macedo's diligence and considerable efficiency, the process, including the gathering and transportation of selected items, was manifestly slow and partially unsuccessful, as the local community, a strong advocate of the intangible significance of those material goods, objected to the dispersion of Saint Mary's artistic and religious treasures.

Keywords: Manuel de Macedo / Suppression of religious orders / Saint Mary of Arouca's monastery / Art market/ Art expert

## **1 INTRODUCTION**

Manuel de Macedo (1839-1915) is commonly known as the author of a pioneering manual on the restoration of paintings and prints, as well as a remarkable draughtsman whose work may be appreciated by leafing through the main periodical publications issued in Portugal throughout the second half of the 19th century and early years of the following century. However, we have learned that, as a consequence of his professional activity as National Museum of Fine Arts and Archaeology's curator, Macedo was also recognized, during his life time and particularly within the context of the dissolution of regular religious orders in Portugal, as an art expert whose deliberations had unquestionably affected the fate of several works of art which, until the beginning of the process of suppression, belonged to religious communities who lived in the then abolished convents and monasteries. Moreover, we must clarify that despite being left relatively unexamined, this aspect was previously noted by other authors (Custódio 2011/2013, Alves 2013).

Thus, in this paper we intend to present a more comprehensive analysis of the role played by Macedo within the expropriation process – or *desamortização* – of female religious orders' movable property initiated in 1861 (Carta de Lei 1861), arguing that the need to determine the tangible and intangible values of the artworks, or the need to decide whether they were worthy of being collected, safeguarded or displayed in the National Museum of Fine Arts, contributed to the rise of art experts, key players within the still barely known 19th century Portuguese art market. Therefore, following a brief

examine of Macedo's life and career, especially as a museum curator, we will focus our analysis on the evaluation visit carried out to Saint Mary of Arouca's monastery, a well-representative case of his activity as an art expert and a sort of an exception within a universe strongly marked by the total dispersion of conventual collections.

## 2 MANUEL DE MACEDO'S EARLY YEARS: AN OVERVIEW

Manuel Maria de Macedo Pereira Coutinho Vasques da Cunha Portugal e Menezes was born on May 10, 1839 (AUC 1839), into a privileged family, as his father was Lord of Morgado do Cardal. Moreover, Manuel's younger brother, Henrique (1843-1910), a renowned politician and intellectual, would receive from the king of Portugal, D. Carlos I (1863-1908), the title of Count of Macedo.

Despite descending from an honourable lineage, later on his life Manuel de Macedo would find himself impoverished (Macedo 1898), a clear consequence of the end of the Old Regime. Consequently, when facing this challenging situation, Macedo decided to "obey to my vocation, which I did, unconditionally" (Macedo 1898) by devoting himself to drawing, thus giving continuity to the education he received from foreigner professors, an evidence of his privileged status in the Portuguese society of mid-19th century. Thus, in order to pursue his career as an artist, in 1857 Macedo joined the atelier of Tomás da Anunciação (1821-1879), with whom he practiced during a year before leaving for Oporto, where he would continue his training with Francisco José Resende (1825-1893), Guilherme António (1829-1901) e João António (1822-1896) Correia, as well with Francisco Pinto da Costa (1826-1869) and the English watercolourist, and his cherished friend, Alfred Howell (c.1799-1875) (Cunha 1881).

During his stay in Oporto, Macedo would put all his efforts in his activity as an artist, thus starting to express his personal preference for humoristic drawing and portraying of cultural customs, the type of work that he would, eventually, successfully devote his life to and become renowned for in Portugal. However, Macedo did not follow a straight path from his early years as a young artist to his acclamation as one of the best 19th century Portuguese draughtsman (Chagas 1872), as between 1860 and 1874, approximately, he devoted his life to theatrical scenic painting and scenography, working in Portugal's most prestigious theatres (Macedo 1898), a topic that obviously deserves its own study, as he was considered "the top scenographer of his time" (Artur 1903).

Eventually in 1874, Macedo would change his career in theatre for another in illustration, a field of work where over the following years he would excel himself, having produced a "remarkable" (Macedo 1898) quantity of illustrations that, throughout the second half of the 19th century, animated the pages of several periodicals, such as *Artes e Letras*, *O Occidente*, *Diário Ilustrado*, and many others. Furthermore, we cannot fail to mention the illustrations made for several books, such as António Enes' *História de Portugal*, the *Álbum dos Costumes Portugueses* or Leite de Bastos' *As tragédias de Lisboa*, just to mention a few. Moreover, the fact that D. Fernando II (1816-1885), for instance, acquired one of Macedo's albums of drawings (*Diversas Notícias* 1872) attests the quality of his work as a prominent artist.

## 3 THE CAREER AT THE NATIONAL MUSEUM OF FINE ARTS

Despite his brilliant career in illustration and scenography, Macedo was, once again,

forced to reinvent himself. In fact, following a severe and continued ophthalmological disease which compromised his activity as a well-succeeded draughtsman, the artist joined the recently opened National Museum of Fine Arts and Archaeology (1884) where he would become, probably as a consequence of his knowledge of art and other factors that we still have to identify, a curator (Macedo 1898). In fact, Macedo was part of the team that was put together to lead the new national museum during its first years, a line-up that included, aside from the curator and secretary under study, the director António Tomás da Fonseca (1822-1894), as well as an amanuensis department, guards and other sections that were, as the museum itself, attached to the Royal Academy of Fine Arts (Macedo 1892). Furthermore, we have determined that Macedo performed his duties as museum curator until his death in 1915 (AMNAA 1915).

Regarding Macedo's activity at the museum, we have learned that he was, at least, responsible for the elaboration of the inventory and catalogue of paintings (Macedo undated<sup>1</sup>), of inventories of miniature paintings (Macedo undated<sup>2</sup>) and drawings from "Sequeira's Room" (Macedo undated<sup>3</sup>), as well as an inventory of drawings organised in alphabetic order by artist (Macedo undated<sup>4</sup>). Additionally, despite the fact that the collection of paintings was, unquestionably, the one that benefited the most from the curator's attention, we believe that Macedo was also involved in the study of the ceramics, glasses, furniture, woodcarvings, jewellery and textiles collections, despite having recognized that the last two required the attention of an expert (AMNAA 1907). Furthermore, we find that in general the inventories carried out by Macedo reveal that he had, indeed, an impressive artistic culture that allowed him to work with different art forms, but also that he was a considerably detail-oriented person, as his inventory entries, mainly the ones regarding paintings and drawings collections, are brief – as they should be – but also significantly thorough, comprising registration numbers, artist's names, descriptions, mediums and supports, dimensions and provenances. Finally, it is also interesting to note that in multiple occasions, in the absence of José de Figueiredo (1872-1937), Macedo acted as interim director, a situation that confirms his seniority within the museum.

Furthermore, in our opinion, the well-known manual on the restoration of paintings and prints published in 1885 (Carvalho 2015, Alves 2015, Casanova 2013, Carvalho 2013, Bailão 2010, Rodrigues 2010, Cruz 2007) may be understood as the result of the research conducted by Macedo in order to perform effectively his relatively recent role as museum curator, as well as to establish orientations to amateurs, thus presenting the results "compiled from the most trustworthy special treatises, – granting always preference to indications whose efficacy the practice of capable artists has sanctioned" (Macedo 1885). Additionally, despite the quality of the previous studies on this manual, we believe that there is still a need for further reflection on the contextualization of this work, as it was published only a year after the opening of the National Museum of Fine Arts by a man whose background did not appear to be specifically related to art conservation and restoration.

Finally, we must also note that during his career as a museum curator, Macedo took part in several heritage-orientated initiatives, such as the commissions and councils of monuments or art established or reorganized in 1890, 1893, 1898, 1901 and 1911, as well as in the exhibition of sacred ornamental art (1895), and in the 1910 commission on the inventory, conservation, restoration and displaying of 15th and 16th century paintings, which he even presided (Custódio 2011/2013, Alves 2013). Moreover, in 1901, Macedo was nominated permanent member of the Royal Academy of Fine Arts (ARBA undated), a recognition that, as the previously mentioned appointments, is intimately related to his activity as National Museum of Fine Arts' curator.



## 4 AN ART EXPERT WITHIN THE SUPPRESSION OF FEMALE RELIGIOUS HOUSES

Nevertheless, presently we are particularly interested in Macedo's activity as an art expert within the highly complex and indisputably lengthy process of expropriation, incorporation or selling of conventual and monastic's property that occurred, in Portugal, from 1834 onwards with the suppression of all regular religious orders. In fact, Macedo, as curator of the National Museum of Fine Arts and Archaeology, ended up being one of the key players within a process which, as we believe, created quite a stir in the Portuguese art market, as it generated an unprecedented provision and circulation of religious works of art. Furthermore, we argue that the nationalization or expropriation of religious orders' property and, particularly, the subsequent need to determine the value of those works of art and religious objects, stimulated a new rise of experts, essentially art world figures that determine whether these movable assets were historically or artistically valuable. Not even remotely surprisingly, when facing the need to distinguish the "works and buildings of remarkable antiquity that deserve to be conserved as masterpieces" (Carta de Lei 1835) from the ones that could be dismissed, the Portuguese government turned to the Royal Academy of Fine Arts. However, we must bear in mind that at first, at a time prior to the creation of the previously mentioned academy (1836), the government opted to create a public body responsible for collecting and preserving, among others duties, books and works of art from suppressed convents and monasteries (Soares and Rodrigues 2011).

However, later on, possibly as a consequence of the conclusions of the commission specifically created, in 1875, with the purpose of critically reflect on the current condition of the artistic education in Portugal, as well on the creation of museums and the need to preserve and restore historical monuments and archaeological objects (Custódio 2011), members of the Royal Academy of Fine Arts would, in fact, be appointed experts within the process of collecting art objects for the much needed national museum of fine arts. Thusly, at least from 1879 onwards (Custódio 2011), it became common that the inspector and members from the Royal Academy of Fine Arts, the so called "experts", were appointed to examine the expropriated movable property of female convents and monasteries, as well to choose the objects whose artistic and historical value was, in their educated opinion, museum-worthy. Manuel de Macedo was, indeed, one of those experts.

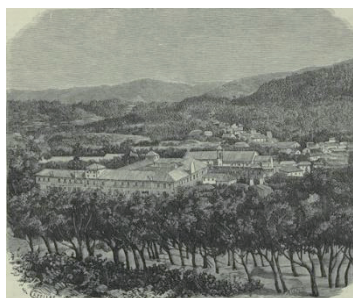
Curator and secretary of the National Museum of Fine Arts and Archaeology since 1884, Macedo was almost immediately entrusted with the examination of works of art and religious objects that were still stored or displayed in recently suppressed female convents and monasteries, such as a painting of Avis' convent of Saint Benedict (ARBA 1884). The process, despite considerably slow, was quite simple: following the death of the last nun and the confiscation of the religious community assets by a Ministry of Finance's representative, the same ministry would request the Royal Academy of Fine Arts to examine the movable property of the suppressed convent or monastery in order to determine whether there were objects of artistic or historical value that should be collected and preserved at the national museum. The request was usually addressed to the inspector or director of the Royal Academy of Fine Arts, who generally, but not always, depending on his availability, would delegate the task to an expert, invariably members of the institution, whether they were artists, professors or, in Manuel de Macedo's case, a curator at the academy's museum. It is also important to note that the request addressed to the Royal Academy of Fine Arts was necessarily accompanied by instructions from the Ministry of Finance to the respective District

Office of Finance's director, in order to allow the expert access to the suppressed monasteries and convents whose assets were previously inventoried.

Thus, after being appointed, in February 1884, to examine the previously mention painting of Saint Benedict's convent, most certainly one of the first experiences of Macedo as an art expert within the process of suppression, he would be frequently requested, usually by the director of the Royal Academy of Fine Arts, to undertake similar missions all over Portugal. In fact, we have ascertained that mostly between 1884 and the late 80's, Manuel de Macedo examined several possessions of extinct religious orders, thus deciding whether this specific tangible heritage was worthy of governmental attention and protection, or if those confiscated objects could be melt, destroyed, borrowed or sold. For instance, Macedo was appointed and authorized to visit and examine, among others, the following religious buildings: Saint Benedict of Avis (1884), Saint Felix and Saint Adrian of Chelas (1886), Saint Benedict of Murça (1886), Saint Mary of Arouca (1886), Saint Denis of Odivelas (1886), Saint Salvador and Saint Joseph of Évora (1886), Most Best Blessed Sacrament of Lourçal (1887), Saint Clair of Coimbra (1888), Saint Mary of Almoster (1888), Saint Rose of Lima of Guimarães (1888), Jesus of Setúbal (1889), Ínsua of Caminha (1889), Saint Stephen of Valença (1889), "Desagravo" of Vila Pouca da Beira (1889), or Saint Helen of the Mount Calvary of Évora (1889).



**Figure 1: Caricature of a museum curator dedicated to "M.M.", who we believe is Manuel de Macedo, friend of Rafael Bordallo Pinheiro, author of the drawing**



**Figure 2: Monastery of Saint Mary in Arouca, c. 1886**

#### 4.1 THE CASE OF SAINT MARY OF AROUCA'S MONASTERY

Once an in-depth discussion of this subject is beyond the scope of this paper, we have opted for presenting a well-representative case study of Macedo's action as an art expert. Thus, we will focus on analysing Macedo's evaluation visit to Arouca, where, in 1886, he would "inspect and select" (ARBA 1887) the objects that "due to their artistic and archaeological value" (ARBA 1887), and once they were not used in religious ceremonies, should be collected and transported to the National Museum of Fine Arts. Moreover, it should be noted from the outset that for each visit Macedo received an additional compensation payment of 3\$000 reis per day [3\$00 escudos], a fair but not very impressive value, especially if we bear in mind that as a curator at the museum he received a monthly salary of approximately 600\$00 escudos (AMNAA 1914).

During the summer of 1886, António Tomás da Fonseca, director of the Royal Academy of Fine Arts, was requested to visit the convent of Saint Mary, in Arouca, in

order to “becoming aware of the objects of artistic value that may exist in that convent” (MR 1886). However, due to his unavailability and given the urgency of the situation, Fonseca opted to appoint Macedo, the curator and secretary of the museum who had, as we have previously revealed, prior experience with such matters, to replace him (MR 1886). Following the precedent set during previous experiences, such as the Saint Benedict of Murça’s case, it was suggested that Macedo should receive 3\$000 reis per day plus travel expenses. Furthermore, we had also ascertained that it was established that this assignment should not last longer than eight days (MR 1886).

Macedo’s evaluation visit to the suppressed Cistercian monastery of Saint Mary in Arouca, as well to other religious buildings and even to private collectors, would take place in September 1886, thus a short time after the death of the last nun, which occurred in July (MF 1886<sup>1</sup>). However, we must emphasize that the value of the monastery’s movable property, as shown by a telegram addressed by the Ministry of Finance to the Treasury’s district delegate, in which the need to protect the “very precious liturgical objects” (MF 1886<sup>2</sup>) is clearly highlighted, was already acknowledged by the government prior to Macedo’s visit, an apparent consequence of the inventory carried out a few years earlier. Furthermore, we have ascertained that during the second half of the 19th century, the monastery became a frequent topic of discussion among writers and historians – Alexandre Herculano (1810-1877), Abel Acácio (1856-1917) or Pinho Leal (1816-1884) – who contributed to the dissemination of historical information regarding Saint Mary’s monastery. In any case, the authorisation to visit the convent and to get first-hand knowledge of the respective works of art, liturgical objects and others religious items was granted by the Ministry of Finance to the director of the Royal Academy of Fine Arts in August 1886 (MR 1886).

Regarding the evaluation visit carried out by Macedo to Saint Mary of Arouca, whose results were firstly reported to the Royal Academy of Fines Arts’ director, we have determined that the museum curator fulfilled his task with great diligence. The description of the monastery and church is, indeed, quite interesting as it reveals that Macedo had a considerable artistic knowledge that enabled him to identify architectural elements and styles, as well periods of construction and restoration works. The monastery’s state of conservation was, indeed, an important object of attention, as Macedo understood that water leaking and infiltrations were a problem that posed a serious threat to the building’s stability. Alongside that, despite the convent’s several “symptoms of decadence” (MR 1886), the examiner found the sculptures and profuse gilded woodcarving inside the church, all in good state of conservation, rather excellent. Also, he placed particular emphasis on Saint Mafalda’s “sumptuous mausoleum” (MR 1886), an “exquisite artwork” (MR 1886) of the 18th century and probably “the first of his kind in Portugal” (MR 1886), as well on the “magnificent” (MR 1886) choir, whose conservation was particularly recommended by the examiner.

Despite the quality of the church’s architectural elements, Macedo found the collection of art, liturgical objects and furniture to be quite disproportionate, which led him to inquire whether there was a plausible justification. The explanation lay in the fact that over the years, as in other cases observed by Macedo, nuns were systematically stripped of their possessions, mainly the valuable ones, obviously, by chaplains and sacristans, as well by voracious bric-a-brac dealers and “antiques seekers” (MR 1886). On the other hand, as Macedo learned, the considerable lack of movable assets could also be explained by the fact that once faced with their fate, nuns opted for leaving to their family members the most valuable possessions in their will and testament. Moreover, their poverty is also a factor to take into account, as throughout their lives, during the most challenging times, probably during the French invasions and the liberal

war, nuns themselves “burnt church vestments in order to extract the gold” (MR 1886) from the embroideries. Additionally, by the time Macedo visited Saint Mary of Arouca, a “magnificent collection of carved gilt wood «Moscovia» chairs” (MR 1886) from the *locutorio*, for instance, was already taken by a malefactor sacristan, as several objects of greater or lesser value, such as textiles of Flanders, jewels, ceramics, faience and other carved gilded furniture were also seen being snatched from the monastery throughout the course of the suppression process.

Following the examination of the objects and specifically after the ascertainment of their artistic or historical value, Macedo determined which were worthy of joining the National Museum of Fine Arts’ collection, thus stamping the chosen ones, around sixty items, with the Royal Academy of Fine Arts seal. Among the selected objects (MF 1886<sup>3</sup>) was Saint Mafalda’s reliquary cross, a wooden tryptic coated with silver, Chinese and Portuguese ceramics, several paintings, the carved “pau-preto” chair of the abbess that wowed Abel Acácio a few years earlier (Acácio 1884), or an illuminated codex with the seal and effigy of king D. Manuel I (1469-1521). Moreover, we have determined that Macedo’s list of objects is well-representative of his meticulous approach to the task under study, but also of his limitations. In fact, if it is true that in a considerable part of the cases the examiner registered a brief description of the analysed and evaluated objects, including allusions to materials, style, epoch, and, occasionally, makers, we have also observed that in others cases the report is clearly insufficient and vague.

Despite the fact that Macedo clearly understood and emphasised the importance of an urgent gathering and transportation of the listed artworks which were, as we have previously mentioned, exposed to human and environmental risk factors, such as theft, damage, destruction and rainwater, the process was quite slow. In fact, the report written by Macedo and presented to António Tomás da Fonseca immediately after the curator’s return to Lisbon, was sent to the *Ministério do Reino* on September 29 (MF 1886<sup>3</sup>). Nevertheless, the request addressed to the Ministry of Finance regarding the handing over of the objects selected to enter the museum’s collection, dates from May of 1887 (MF 1887<sup>1</sup>), while the certificate of delivery dates from July of 1892 (MF 1892<sup>2</sup>). A related point to consider is the fact that the visit of Manuel Nicolau da Costa (MF 1892<sup>1</sup>), the academy’s treasurer responsible for the reception and transportation of the previously selected objects, as well of others that he was allowed to choose, occurred precisely on the eve of the public auction scheduled to be held on July 10, 17, 24 and 31 (MF undated). In sum, the treasurer received a part of the objects previously selected by Macedo, but not all, as some were in the possession of Saint Mafalda’s brotherhood and of the Parish Council, while others – the previously mentioned illuminated codex – had disappeared (MF 1896); and selected a few more (MF 1892<sup>3</sup>).

Furthermore, we found the creation of Saint Mafalda’s brotherhood to be a crucial factor towards the comprehension of the slowness and limited success of the process under study, as it seems that the concerned organisation was established in 1886 precisely for the purpose of perpetuating the cult of the beloved saint, as well to avoid the dispersion of the monastery’s art and liturgical objects. In fact, we have ascertained that in 1887, thus after Macedo’s evaluation visit and selection of objects, the Ministry of Finance, through the *Direcção dos Próprios Nacionais*, prevented the Royal Academy of Fine Arts from seizing the reliquary that, according to tradition, was donated by Saint Mafalda. The compelling argument then presented was that the reliquary, provisionally entrusted to the main church of Arouca after Macedo’s visit, was offered under the condition of never leaving the monastery, unless it was requested by the people of Arouca in order to take part in processions organised with

the purpose of dispelling evil spirits or calamities (MF 1887<sup>2</sup>).

Later, in 1889, a significant part of the monastic heritage, both movable and immovable, was officially entrusted to Saint Mafalda's brotherhood and to the Parish Council (Rocha 2011). Moreover, these objects that in 1886 were still stored in the secularized monastery but that in the meantime were successfully reclaimed, hidden and guarded (Vitorino 1937) by the previously mentioned brotherhood, a strong advocate of their intangible significance, would later led to the creation, in 1933, of the local Museum of Sacred Art, thus preventing with partial success the more common total dispersion of valuable monastic heritage that followed the 1834 decree, a process that invariably disregarded the spiritual needs and beliefs of the local communities. Yet, we believe that if the creation of the local museum, in opposition to keeping the works of art in places of worship, was known to the late Manuel de Macedo, he would not be totally displeased. After all, he was a passionate advocate of museums, "the right place[s]" (Macedo 1886) to valuable artworks, as the best option towards the protection of cultural heritage, as well a believer and enthusiast of the importance of those artistic inspections as heritage awareness campaigns.

## 5 CONCLUSIONS

The role played by Manuel de Macedo throughout the late 19th century attests the existence of a phenomenon whose comprehensive analysis has been disregarded: the rise of the Portuguese art market as a consequence of the suppression process initiated in 1834. In fact, by analysing Macedo's evaluation visit to Saint Mary of Arouca, we have ascertained that the need to determine the artistic and historical value of the expropriated movable property of the recently suppressed monastery, combined with the slow, yet factual, maturation of cultural heritage politics in Portugal, explain the rise of art experts whose deliberations turned out to be the final act towards the dispersion of conventual and monastic collections of art and liturgical objects, thus disregarding the role of local communities in the creation of their intangible significance. These artistic inspections carried out by Macedo had however, simultaneously, contributed to the preservation – through musealization and population awareness – of objects whose material value was increasingly coveted by avid antiques dealers and threatened by both human and natural factors. The process, despite quite simple, was not quick, neither uncontroversial nor totally successful, as there were multiple players with different interpretations of the artistic, intangible or monetary value of those artworks/religious objects/commodities, which proves we are, indeed, before a considerably vibrant and multifaceted, yet still barely known, art market.

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# IDENTITY AND ARCHITECTURAL VALUES OF THE MONASTERY OF SÃO BENTO DE CÁSTRIS IN THE PERIOD 1957-2005

Patrícia Salomé Faustino<sup>1</sup>, Sofia Aleixo<sup>2</sup>, Antónia Fialho Conde<sup>3</sup>

<sup>1</sup> Master, University of Évora - Dept. of Architecture; Colégio dos Leões, Estrada dos Leões, 7000-208 Évora, Portugal. E-mail: salome.faustino@gmail.com

<sup>2</sup> PhD; University of Évora, vmsa architects, Oxford Brookes University; University of Évora – Dept. of Architecture; Colégio dos Leões, Estrada dos Leões, 7000-208 Évora, Portugal. E-mail: saleixo@evora.pt

<sup>3</sup> Doctor; CIDEHUS - University of Évora - Dept. of History; Colégio do Espírito Santo, Largo dos Colegiais 2, 7000-803 Évora, Portugal. E-mail: mconde@uevora.pt

## ABSTRACT

Identity is part of the architectural heritage, related directly to the cultural values of the place. In Portugal the monasteries were significantly changed after 1834, reason why they are architectural entities whose materiality reflects the adaptations to which they have been subjected over time, integrating its authenticity. This is the case of the Monastery of São Bento de Cástris, in Évora, which had several uses through time, adapting the place to allow its physical continuity. Through the study of its materiality it was sought to recognize the identity of the place between 1957-2005, when it was used as the male section of Casa Pia, a child care institution.

This study aims to contribute to a future intervention methodology that considers the material values of the Monastery, due to the need to safeguard this currently abandoned place. This will contribute to regain a new collective esteem, essential for its continuity.

Key-word: Architectural values / Identity / Monastery of São Bento de Cástris / Cistercian Architecture / Material Cultural Heritage.

## 1 IDENTITY AND ARCHITECTURAL VALUES

The theme of *identity* of architectural heritage has been studied by several authors who also refer that the *memory* is an essential tool and contribute to its continuity and safeguard. Regarding the themes *identity* and *memory*, it was recently presented a dissertation within the scope of the Masters in Architecture at the University of Évora, entitled “The Monastery of São Bento de Cástris: Memory and Identity”<sup>1</sup> (Faustino, 2016). This group of buildings from thcentury is part of the identity of the city of Évora and has been classified as National Mone 13<sup>th</sup> ument since 1922<sup>2</sup>. However, previous investigations about the monastery did not reflect on the present *memory* and *continuity* of its *identity*, focusing mainly on historical aspects (Conde, 1995, 2009; Caeiro, 2008; Tereno, Pereira, & Monteiro, 2013). On the recent history of the place,

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<sup>2</sup> Decree n. ° 8 218, DG, I Série, n. ° 130, from 29-06-1922, in <https://dre.pt/application/dir/pdf1s/1922/06/13000/06300630.pdf> (consulted 07-08-2016)



and particularly on its use as Casa Pia<sup>3</sup> between 1957-2005, little is known – being the most consistent use for a certain period, since its use as an agricultural school occurred in a very short period between 1900-1930. Being this last continuous use as child care institution recent, it allows us to collect and document the memories of its previous users. These were the main reasons that lead us to define the *place's memory mapping*<sup>4</sup> as this investigation objective (Faustino, 2016, pp.116-131,133-157), as a result of its spatial adaptation to the new use. However, in the context of the contribution of tangible values to the establishment of intangible values, this article will present the study on the material identity of the Monastery of São Bento de Cástris.

After the conceptual framework and a brief approach to the history of the place, we'll compare the original construction and the adaptation of the building to the new functions in order to verify if two different identity epochs can coexist in this place.



**Figure 1: Cistercian atmosphere at Monastery of São Bento de Cástris. Left: Cloister. Right: North gallery of the cloister. Source: Patrícia Faustino, 2016**

## 2 CONCEPTUAL FRAMEWORK

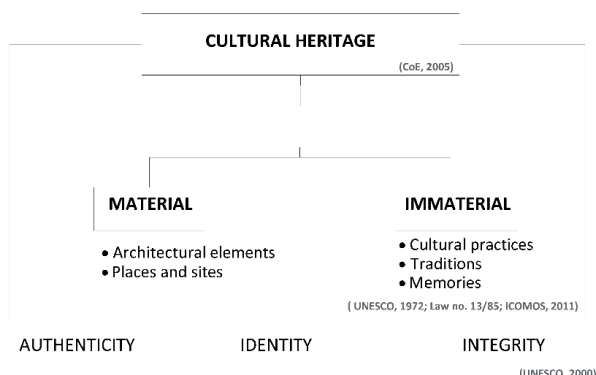
The understanding of concepts of *authenticity* and *identity* of the *cultural heritage*, material and immaterial, seeks to understand the relations between them, how it preserves the heritage values, and what is the role of *memory* in the continuity of material heritage. From the Heritage International Conventions, we highlight: the Recommendation concerning the Protection, at National Level, of the Cultural and Natural Heritage (UNESCO, 1972), for emphasizing the need to identify, protect, preserve and enhance cultural heritage, ensuring its transmission to future generations; the Law of the Portuguese Cultural Heritage (Law no. 13/85) in which material and immaterial values are considered part of the cultural heritage; the Krakow Charter (UNESCO, 2000) in which concepts as authenticity and identity are further developed; the Council of Europe Framework Convention on the value of cultural heritage for society (CoE, 2005), for clarifying the definitions of material and immaterial cultural heritage, for the importance given to people's role in the heritage conservation, and also to the integration of immaterial heritage values on the protection of the material heritage.

The diagram on Fig. 2 is a result of this research, it shows the relationship between *cultural heritage* – which includes “all aspects of the environment resulting from the interaction between people and places through time” (CoE, 2005, art. 2) -, comprising the *material* and *immaterial values* (ICOMOS, 2011), as well as the *authenticity* and *identity* of places (UNESCO, 2000). It is necessary for this concepts to adapt to

<sup>3</sup> Child care institution.

<sup>4</sup> To spatially identify the spaces, present in people's memories.

contemporary values regarding the development of integrated strategies for heritage safeguard.



**Figure 2: Conceptual diagram on the relationship between authenticity, identity and integrity of Cultural Heritage. Source: Patrícia Faustino, 2016**

Cultural heritage, being it material or immaterial, has embedded an idea of past (Cabral, 2011). The value of the tangible heritage has been ensured over the years by the practices of heritage conservation, while the intangible heritage is being lost since there is no methodical record of the activities and practices that define it, relying mostly on the generational transmission. The immaterial heritage, as the material heritage, allows the communities a feeling of identity and continuity, that contributes to its preservation through cultural respect (Cabral, 2011). Thus, we identify the necessity for community participation in cultural heritage continuity. Regarding the preservation of material and immaterial aspects of heritage, the identity of places should be respected and listed without preventing its development (ICOMOS, 2011; Lopes & Correia, 2014, p. 493).

Though conventions, charters and recommendations give us guidelines to the heritage safeguard, heritage can't be considered as an isolated object. It is necessary to evaluate and analyse these strategies through contemporary eyes and critics. When it is possible to give the material heritage a new use, without perverting its identity, it is necessary that the place is adapted, in a contemporary manner, suited for the new function. This function - which will be part of its authenticity -, should be thought out according to the place and its identity and as to ensure its continuity, preserving material and immaterial heritage. Only then the conservation of the material values allows the continuity of immaterial values.

## 2.1 THE MONASTERY OF SÃO BENTO DE CÁSTRIS

As material heritage, the Monastery of São Bento de Cástris has been a case study by multiple authors in different fields of research: in history and in the restoration of this architectural heritage (Conde, 1995, 2009, to present; Caeiro, 2008; Tereno, et. Al., 2013); in the connection between culture and the practice of tourism (Freire, 2011); and in the understanding of its role in the Cistercian Architecture (Martins, 2011). The monastery was founded in the 13<sup>th</sup> century (1275) as a Cistercian female monastery, the first to be built South from Tagus (Conde, 2009). It is located close to Évora, 2 kilometres from the classified Historical Centre. The religious orders were extinct in 1834, therefore this monastery – being a female monastery - ceased its use as a religious institution by the time the last nun died, in 1890. From 1900 to 1930 it was

used as an agricultural barn, and during this time the building suffered material damage, alterations in the facilities, and was never subject of conservation actions (Conde, 1995). In the 1930's, Direção Geral dos Edifícios e Monumentos Nacionais (DGEMN, an extinguished state department for the heritage safeguard) starts the works for the restoration of the building, finally taking charge of it by 1941. This intervention had the objective of settling in the masculine section of Casa Pia de Évora, which was by that time in the same city but at Colégio do Espírito Santo, since 1836 (Gameiro, 2000).

Casa Pia de Évora moved in 1957, and could only do so due to the physical and functional changes in its facilities. The most intervened part of the monastery, the West wing, was the one that was in the worst state of conservation and didn't have significant vestiges left from previous centuries (Conde, 1995; Martins, 2011). The use of the monastery as a child care institution lasted until 2005, being the monastery without a permanent occupation until the present day. Despite the change in its functions through time, Martins (2011) considers that these new uses ensured the continuity of this architectural heritage. Since 2009 the monastery is owned by Direção Regional da Cultura do Alentejo (DRCA a state institution for cultural management), who uses the place for cultural events such as concerts and scientific meetings, as it occurs with the annual seminary, *Residências Cistercienses*<sup>5</sup>, since 2013. Although it has been subject of some recent interventions in roofs and garden space in 2011, the general condition of the group of buildings deteriorates over time.

In 1995 Antónia Fialho Conde describes the building as very degraded, in need of urgent interventions, which didn't take place until the year of 2011 and, more recently, in 2015. Exceptionally improvement works in the dormitories were made shortly before the property was left by the institution, as described by its users. If it was the Monastic life that brought it to us, it was its use as a child care institution – Casa Pia – that allowed this building to reach the present day. The conservations made by the extinct DGEMN, with more or less respect for the identity of the monument in study, were crucial so that we can study, preserve and enjoy this heritage. As result of many adaptations throughout the centuries, it reflects the taste and will of those who inhabited it, built according to the techniques of the different epochs, reflecting several architectural styles from different eras. After its abandonment the Monastery of São Bento de Cástris was successively vandalized, degrading from day to day. With minor interventions as mentioned, among others starting in the year of 2015 taking place until now, it is essential to look at this national monument and safeguard its identity (material and immaterial values) based on a study of its spatial-functional evolution.

## 2.2 20<sup>TH</sup> CENTURY

From 1900 to 1930 the monastery was rented by *Estação Químico Agrícola – 8ª Região Agronómica*, later called *Campo Experimental da Circunscrição Agrícola do Sul* (Conde, 1995; Caeiro, 2008). Relating to this period the information is scarce or inexistent. However graphic documentation allows us to identify changes made in the east facade of the building<sup>6</sup> - namely, the opening of several gateways (that were later closed by the end of 1940's) for the transportation and storage of materials inside the building. In the promotional video *Évora*<sup>7</sup>, from 1920, it is possible to watch the

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<sup>5</sup> Available at <http://residenciacisterciense.weebly.com/> (consulted 16-09-2016)

<sup>6</sup> Available at [http://www.monumentos.pt/Site/DATA\\_SYS/FONTES\\_DOC/IMAGES/00000040/00196978.JPG](http://www.monumentos.pt/Site/DATA_SYS/FONTES_DOC/IMAGES/00000040/00196978.JPG) (consulted 03-09-2016)

<sup>7</sup> Promotional video of the city of Évora and its historical-cultural heritage, produced in 1920 and recovered in 1990 by the Municipality of Évora.

monastery being used by 8ª Região Agrícola de Évora<sup>8</sup>. In 1932, *Direcção Geral dos Serviços Agrícolas* (a government department for agriculture) alerts the DGEMN director for the state of ruin of the monastery, which he had been doing since 1927 without results<sup>9</sup>, leading DGEMN to declare the alarmingly ruinous state of the building in 1936<sup>10</sup>. By the 1930's, the state of ruin of the building, its unknown future use, as well as its favourable functional-spatial conditions allowed for the child care institution to be its future.

In 1940 the building, severely damaged, was handed over to the state, with intention of being used as *Asilo Agrícola Distrital* (Caeiro, 2008).

### 2.3 BUILDING ADAPTATION

In 1947, studies were made with the intention to settle in the feminine section of Casa Pia de Évora<sup>11</sup> and its agricultural school for the masculine section. The descriptive memory of the project and architecture from 1948<sup>12</sup> asserts that the adaptation project for the building does not disrespect its original material aspects or the simple and sober original epoch features, reflecting a will to preserve original epoch elements in the decorative integrity and spatial organization. The decision to install the male section of Casa Pia was made in 1950<sup>13</sup>. In this year another study is made concerning the adaptation of the old monastery to the new use according to a specific program made and given by Casa Pia de Lisboa. From 1936 to 1950, the works in the building were mainly of conservation and restoration. The new adaptation of the building aims to preserve the old features and change or build only what is essential for the news use, introducing inexistent services (e.g. classrooms) and refurbishing the spaces for new purposes (e.g. a new dining hall, apt for the institution's spatial needs). After the approval of the proposed program, works were planned in phases for a better project management.

The adaptation to a new use followed a long program, so the space could have the conditions and capacity to shelter and educate children. During the works and by the year of 1955, architect Rui Ângelo do Couto<sup>14</sup> rethinks the program proposed, making the occupation possible in a shorter time. The spaces required by the program were assigned as such:

<p><b>Ground floor, around the cloister:</b></p> <ol style="list-style-type: none"> <li>1. Gymnasium (temporary)</li> <li>2. Typography, binding, tailoring and shoe workshops.</li> <li>3. Priest-director's office</li> <li>4. Classroom for moral studies</li> <li>5. Lobby, atrium, secretariat and visitors room</li> <li>6. Laundry services</li> <li>7. Kitchen, kitchen's pantry, dining hall for 200 students and 30 workers, with their own sanitary facilities</li> <li>8. Pantries and general sanitary facilities</li> <li>9. Church and outbuildings</li> </ol>	<p><b>First floor:</b></p> <ol style="list-style-type: none"> <li>1. Two big rooms for dormitories - divided in sections as to better distribute the 170 students - comprehending their own sanitary facilities with toilets (for 50 students)</li> <li>2. Elementary school classrooms (50 students)</li> <li>3. Two classrooms for complementary studies (30 students each)</li> <li>4. Nursery, nursing office and isolation room;</li> </ol>
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<sup>8</sup> This usage is not specified throughout the video, but at the date this would be the use of the building.

<sup>9</sup> PT-DGEMN:DSARH-005/092-4977/08.

<sup>10</sup> PT-DGEMN:DSARH-005/092-4977/08, p.6

<sup>11</sup> Doc – 005/092-4976/02.

<sup>12</sup> Doc - 005/092-4970/02

<sup>13</sup> Doc – 005/092-4976/04.

<sup>14</sup> Doc – 005/092-4966/04.

<p><b>Second floor:</b></p> <ol style="list-style-type: none"> <li>1. Worker's dormitories, with private sanitary facilities</li> <li>2. Laundry room</li> <li>3. Drawing classroom (30 students)<sup>15</sup></li> <li>4. Music classroom (30 students)</li> <li>5. Elementary school classroom (45 students)</li> </ol>	<p><b>Exterior:</b></p> <ol style="list-style-type: none"> <li>1. Director's house</li> <li>2. Main pantries</li> <li>3. Bakery and outbuildings</li> <li>4. Laundry machine's room</li> <li>5. Metal's workshop (30 students) and outbuildings</li> <li>6. Carpentry workshop (30 students) and outbuildings</li> <li>7. Temporary byre<sup>16</sup></li> </ol>
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In 1956-1957, some phases were already completed. However, by the time the male section of Casa Pia moved to the building (1957) there was some work left to do in the church, the workshops and the cloister. Thus, a new period of use began, which was essential to the monastery's continuity.

Studies were made, during 1961, concerning the classification of the building's ZEP (Special protection zone) attributed in 1962<sup>17</sup>, proposed by the architect Rui Couto who said that the Monastery of São Bento de Cástris groups of buildings and its surroundings are one of the most important rural properties in Évora's surroundings<sup>18</sup>.

## 2.4 NOWADAYS

Besides the changes in its use, it's still possible to find vast integrated heritage in the Monastery of São Bento de Cástris, mainly from the Cistercian epoch. Such as various panels of painted tiles –in the lower choir (17<sup>th</sup> century), in N.ª Sr.ª do Rosário chapel (circa 18<sup>th</sup> century) and the set of panels in the church depicting St. Bernardo's life (Verão, 2016) -, as well as several frescoes, the church's gilded woodcarvings, or even the columns of the arcade of the cloister. From the frescoes and paintings, the work of Diogo de Contreiras stands out – dating from the mid-16<sup>th</sup> century (Conde, 2010)-, as the 17<sup>th</sup> century Cistercian dining hall frescoes from José Escobar – never intervened – (Gil, Costa, Dias, Candeias, & Mirão, 2016), and finally the frescoes and paintings in the church and the nursery's first floor altar.

The intervention in the Monastery of São Bento de Cástris is described by Tomé (2003) as less violent than previous ones in other monasteries, because the program was better suited to the building.

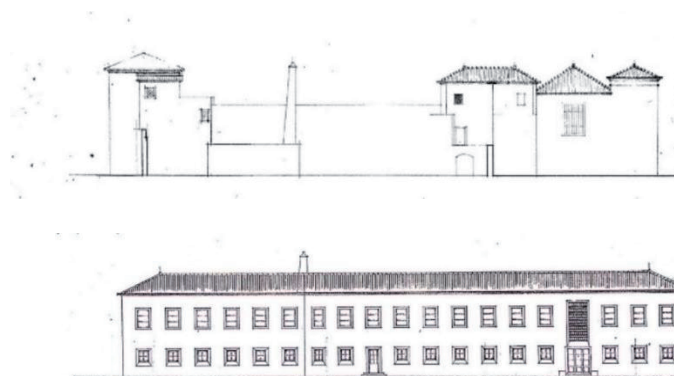
According to Martins (2011, p. 1534), the Cistercian monastery's authenticity remains in its 14<sup>th</sup>, 15<sup>th</sup> and 16<sup>th</sup> century architectural features, having all the other epoch's remains been altered by the construction and reconstruction campaigns, especially the ones when DGEMN was in charge; the monastery's integrity was lost due to the works made during the 20<sup>th</sup> century. The damages to the West wing, where the kitchens were located, are an example of lost remains that were essential to understand the monasteries architecture. Nowadays we still have the 15<sup>th</sup> century chimney (Fig. 3) and some identifiable areas of Casa Pia's kitchens.

<sup>15</sup> Specific identifier (TXT.05581623)

<sup>16</sup> Doc – 005/092-4967/01 - Specific identifier (TXT.05581624, TXT.05581623)

<sup>17</sup> Order-in-Council of 20-08-1962, published in DG, II Série, n.º 210, of 06-09-1962 (with ZNA), in <http://www.patrimoniocultural.gov.pt/pt/patrimonio/patrimonio-imovel/pesquisa-do-patrimonio/classificado-ou-em-vias-de-classificacao/geral/view/69780/> (consulted 07-08-2016);

<sup>18</sup> Doc – 005/092-4975/05.



**Figure 3: Top: West facade in ruins, no date (SIPA DES.00053662); Bottom: West facade, with the remaining 15<sup>th</sup> century chimney, no date (SIPA DES.00053694)**

The bibliography asserts that only the adequate use of places allows for their continuity (Cabral, 2011; Lopes & Correia, 2014). In our case study the record shows that the inadequate use can lead to severe and irreversible damage, such as the use of the monastery as agricultural barn, which resulted mainly in ruin of the West wing and severe damage to the integrated heritage (Tomé, 2003). The damage to the roof, the pavements and to the West wing are evidence that any use is not in itself a guarantee for the continuity of heritage (Tomé, 2003). The use as a child care institution allowed, otherwise, the survival of this building until today, despite the loss of some material heritage until the 1930's and during the 20<sup>th</sup> century DGEMN campaigns.



**Figure 4: Materiality. Left: Cistercian dining hall; Right: Casa Pia's dining hall**

Through the analysis of the different uses of the monastery, from the beginning - as Cistercian monastery (1275-1890) – to its use as a child care institution (1957-2005), we could identify the spaces that maintained or changed their functions and uses. From this analysis we conclude that the Cistercian spatial organization structure was kept. The similarities between monastic living and the life in a child care institution (Tereno, et. Al., 2013) made for an easy adaptation of the building to its new functions, because the space was suited for these functions in a way that allowed for the place's identity to be maintained. As we can see in Fig. 5, on the ground floor, the major changes in the form of the building were made in its West area (West wing), which, due to severe damage, required extensive requalification works. There were major changes in the building's facade, especially in the new kitchen and dining hall areas (Fig. 5) and this area's materiality is clearly different than the rest of the building (Fig. 4). In the new plan drawings, we can see that the architect followed the remaining traces of the old kitchen structure and facade. On the first floor (Fig. 6), the major changes were made in the same side of the building, where the classrooms were built.



**Figure 5: Mapping of the uses, ground floor - Left: uses from 1275-1890; Right: uses from 1957-2005**

A comparison between the use of the spaces through time was possible, and the following functions of the space were defined: to eat, the home living (cooking, living-rooms, sanitary facilities), to sleep, to care (e.g. nursery), leisure, unknown use, living-rooms, to pray and to learn. Each function was pinpointed in the plans with a different colour, and the same colour was used in different epochs for the same function so a *place's memory mapping* could be made (Faustino, 2016).



**Figure 6: Mapping of the uses, first floor - Left: uses from 1275 to 1890; Right: uses from 1957 to 2005**

Throughout the years, the Monastery of São Bento de Cástris had different uses which were apparently distinct, but actually occupied the spaces in similar ways. Intervention methodologies usually aim to maintain only the material and integrated heritage, when an integrated solution, regarding also its immaterial features, should be the aim of such projects. In the case of the monasteries, we should research on its adaptations through time and on the meaning of this heritage to nowadays communities. The recording of the memory is an essential tool to preserve both immaterial and material heritage and demands the community participation. The identification feeling that results from

reciprocal transmission of values promotes the respect for heritage and the necessity to preserve it (Cabral, 2011). The understanding of the place's values and meanings allows the development of integrated solutions for the heritage, regarding specific strategies for each case. The communities should be considered during the process of identifying and defining strategies, so the values and places in their collective and cultural memory can be taken into account. This place should not simply be considered as a Cistercian monastery because its last continued use as Casa Pia was the reason for it to have persisted until these days in a reasonable state of conservation.

### 3 THE IDENTITY OF ARCHITECTURAL HERITAGE

Through the last decades the Monastery of São Bento de Cástris was widely studied, allowing us to gather the place's history in detail. Throughout its history it is possible to understand its spatial evolution and its Cistercian use (1275-1890), with a lack in the studies from the period between the end of 19th century and the present day. The available documentation on its spatial modifications concerning the time it was used as a child care institution, from 1957 to 2005, is extensive and allows to identify the changes that were made.

The identity of the Monastery of São Bento de Cástris lies in its material and spatial original characteristics, present in its religious configuration inherent to the Cistercian order. The 20<sup>th</sup> century spatial adaptations, between the 1930's and the 1950's, changed some of the original features, which allowed for the new use as a child care institution, that became part of its identity and authenticity. Besides these changes in the building, we came to conclusion that a significant amount of the monastery original and identity features remains intact, such as its surroundings, its fences and its isolation from the city. The Cistercian architectural identity of the monastery still present in its materiality and its original constructive elements that have remained, such as: the cloister, the Chapter room, the East, North and South wings, as well as in the integrated heritage. In its architectural form it is possible to distinguish identity elements that have been maintained through time, as the Cistercian spatial organization (*Spiritus* and *Corpus*), the church or the cloister, where it is possible to notice decorative vestiges of the Gothic, Manueline and *Mudejar-Alentejano* styles, and also other important elements of the Cistercian architecture such as the balcony on the East wing or the cloister fountains.

In conclusion, the material elements resulting from 20<sup>th</sup> century spatial adaptations to Casa Pia make, nowadays, as much part of the place's identity as the original Cistercian features. This means that these two distinct identity epochs can coexist in the same place. Therefore, it is important to recognize them in every future intervention and safeguard methodology for this architectural heritage. However, it is still relevant to study the memory as an intrinsic part of a place's identity, which will be an important value to better understand these places that live in our collective memory. If the role of society is to maintain the immaterial value of these places, for their importance in the community's identity, it is also the role of the heritage proprietaries to assure the maintenance and safeguard of the heritage and to promote respect for the identity of these places.



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# BARONS OF TROVISQUEIRA'S WOOLEN MILL, AT RIBA D'AVE - FIRST LAYER ON A OBLIVION STRATIGRAPHY

Mário Bruno Pastor<sup>1</sup>, Eduarda Vieira<sup>2</sup>, Juan Manuel Cano Sanchiz<sup>3</sup>

<sup>1</sup>CITAR - Universidade Católica Portuguesa - Escola das Artes, Rua Diogo Botelho, 1327, 4169-005 Porto, Portugal, mbrunopastor@gmail.com

<sup>2</sup>CITAR - Universidade Católica Portuguesa - Escola das Artes, Rua Diogo Botelho, 1327, 4169-005 Porto, Portugal, evieira@porto.ucp.pt

<sup>3</sup>University of Cordoba, Spain, laciudadcritica@gmail.com

## ABSTRACT

Riba d'Ave is a small town in Portuguese NW, located at the center of the industrial textile explosion that shaped and redefined the Ave Valley. It is currently crossing a painful process of deindustrialization. The major factory in the region, Sampaio, Ferreira e Cia Lda, closed in 2005, leaving the landscape and the community in a state of disintegration. The memory and structures of this company, founded in 1896, remain very present in the landscape and in the collective imagination. However, a first factory installed there in 1881 by the Baron of Trovisqueira and his wife, which was in fact the basis of the whole process, seems nowadays, a little overlooked and poorly studied, both from the historiographic and industrial heritage point of view. This paper intends to recover part of the memory of this first inaugural factory, and articulate it with what still exists today in the landscape.

Keywords: Deindustrialization / Woolen factory / Industrial heritage / Community memory

## 1 VALE DO AVE INDUSTRIALIZATION

The basin of Rio Ave, in the NW of Portugal, comprises a geographical area with approx. 1391 km<sup>2</sup>. It is delimited to the West by the Atlantic coast, in the South by the Leça Valley, the Douro river in the East and in the North by Cávado (Costa, 2010: 350). It is a territory of mountainous downhills, full of small and scattered valleys, very populated and articulated among themselves, making up the core of what is traditionally denominated by *Baixo Minho*. The region is crossed by several affluents of the river Ave, by a diverse and branched road network and, since the second half of the 19th century, is served by the connecting rail lines from Porto to Guimarães, Braga and Viana do Castelo / Valença do Minho.

Although it has become a symbol of the Portuguese textile industry (and deindustrialization), *Vale do Ave*, contrary to what is sometimes stated (Cordeiro e Costa, 2013: 485), experienced a relatively late industrialization process.

Hydrographic use of the riverbeds in the region, as well as the predominance of small domestic weaving workshops, has been a long time tradition in the region, however, that may not be exactly a model of early industrialization (Cordeiro e Costa, 2013: 485-486), but rather a form of maintenance of a traditional organization of early modern, or even medieval, societies.

The first truly industrial model undertaken in the region date only from 1845, the *Fábrica de Fiação do Rio Vizela*, a cotton plant at Negrelos, Guimarães. In any case, this example remained isolated during the following 25 years (Cordeiro e Costa, 2013: 485).

However, from the 1870s and 1880s, in the sense of seeking cheaper investment (especially at the labor force), several capitalists, mostly former emigrants in Brazil, the so-called *brasileiros*, began to abandon larger cities, like Porto, to start investing in their own homelands, or in the surroundings (Alves, 1994: 297-309). This led to the beginning of *Vale do Ave* industrialization process.

In this way, the study of one of the first textile factories of Ave, in this case a small woolen mill, prior to the cotton industry explosion, can be a contribution to a better understanding of the origin of the region's industrialization process. It is also a form of impact evaluation of the industrialization and subsequent deindustrialization on the landscapes - the physical one, but also the mental landscape projected in the community own perception. Among these impacts, we highlight the emergency of patrimonialisation, its valorization or its oblivion.

## 2 THE SANT'ANNA WOOLEN MILL - FIRST DOCUMENTAL MEMORIES

Registered only in the 1890 Portuguese *Inquerito Industrial*, the *Fábrica de Sant'Anna* (at the time known as the Baroness of *Trovesqueira* (sic) factory (*Inquerito Industrial*, 1890, vol. III, 158), remains relatively unknown. Even its own founding date was never properly quoted (Cordeiro e Costa, 2013: 486 and 492 or Alves, 2005: 449-450). This relative silence around the factory mill, both institutional and academic, reflects a somehow incomplete knowledge of the region, its industrialization and its heritage references.

All these omissions over the *Fábrica de Sant'Anna* become more urgent to clarify when we realize that we are facing the first truly industrial watermill structure (in the textile sector), built on the Ave, using its waters as industrial energy. In all the history of the textile industry of the *Vale do Ave*, barons of Trovisqueira's, in Riba d'Ave, is the departure point that deserves a little more attention.

Although quoted (in a somewhat confused and unreferenced way) in a Riba d'Ave's local monograph (Fernando, 1994: 22), the mill's register document was never published before. We had access to the original document (cf registration no. 13198 of the *Registo Predial e Comercial* de Vila Nova de Famalicão). In the text, the ownership of the mill was made in the name of Baron de Trovisqueira (José Francisco da Cruz Trovisqueira, 1824-1898) and it is dated from March 28, 1881.

The registration document and its addenda allow us to synthesize a set of important starting points for the understanding the factory formation process. The document refers to that the property is an urban and rustic building which we will describe later.

The complex was purchased by the Baron on November 18, 1873, in a context of the acquisition of patrimony of the so-called *Próprios Nacionais* - formerly ecclesiastical properties (usually of local priests) that had reverted to the state with the law of August 28, 1869, of José Luciano de Castro (Leal, 2012: 118).

This type and context of acquisition allows us to draw two important notes: firstly, both the purchased building and the land belonged to the priests of Riba d'Ave, an important point to trace the space and its exact location (see below its inscription and description in the *Memórias Paroquiais* of 1758); secondly, knowing that the State took the priest lands, and sold them to private investors, helps us to illustrate the socio-cultural approach and context of the genesis of *Vale do Ave* industrialization process (or, in a

general sense, the industrialization in the 19th century Portugal).

This process is not dissociated from social changes and overlaps of the new elites at the time. In this case, the overlapping of a new class, a liberal bourgeoisie, enriched with emigration, especially to Brazil (as is the case with the Baron, among many others). At the same time, a bourgeoisie that came to socially affirm themselves over the old ruling classes, specifically the Catholic Church. In the present example, this aspect assumes an interesting feature of literality.

The change of powers and social orders is part of one of the premises for the definition of industrialization, or definition of *industrial society*, pointed out by Marilyn Palmer (Palmer, 2007: 1-2). Also in this sense, we consider the understanding of the Trovisqueira barons factory as symptomatic of the extended model of the Portuguese industrialization process.

It should be noted that Baron of Trovisqueira was ennobled in 1864 (cf A.N.T.T., *Registo Geral de Mercês de D. Luís I*, liv. 8, f. 227v). According to the traditional practice of Portuguese constitutional liberalism, the title was paid (normally those titles were very expensive and not hereditarily transmitted), but it was precisely with the nobility titles that the new industrial and financial dominant class could social emerged and interact among the old nobility, and, of course, with the own king. As we will see later, this interaction was peculiary interesting in the case of the Baron and the his local community.

The same baron had also been the first concessionaire and contractor to build the railroad lines for the first horse-drawn trams (the *americanos*), in Portugal, in the city of Porto, in 1870.

Proceeding the reading of registration no. 13918, we will analyze now the description of the structure as it was when it was acquired in 1873:

*"Urban and rustic property composed of a hunting land with its vegetable garden and bush, located in Aldeia da Ponte, in the village of Riba d'Ave, near the river Ave and another farm. A house with two waterwheels moved by the water of a riverbank, just two feet from the mill with two wheels, that mill only in the summer, all surrender and protected by a wall."*

In fact, the watermill referred in the document is the same one that appears in the *Memórias Paroquiais* from 1789 (cf ANTT, vol. 31, no. 80: 457-460), the so-called *Azenha da Ponte Nova* (the Riba d'Ave's bridge - *ponte* - had been built in 1702), belonging to the parish. It should be noted that in these same *Memórias*, the Ave is described as being very close to the bridge, (almost flood in it), a situation that caused the watermills to work only in the summer, just as they did in 1873.

Today, the river is at a much lower level, so it is important to take this into account when determing the exact location of the mill. On the other hand, the description of 1881 shows us another reality:

*"[...] the same building (the old watermill) is currently (1881) made up of a tower house and a woolen mill, whose machines are moved by water from the River Ave, by means of a water turbine. All the large building, and river bank were properly modified to adjust the new wooden mill factory and all its belongings."*

We are now looking at an industrial structure for wool processing (distinct, perhaps due to competition from the aforementioned cotton mills in *Vale do Ave*), of considerable size for the time and location (Figs. 1 and 2). It seems to configure the typical textile mill type build in height. Quoting K. Hudson *"the textiles manufacturers were pioneers of new building techniques and materials, as they were of new machines and new*

*ways of setting people to work* (Hudson, 1979: 171)." Of course, that in 1881, in Northern and Central Europe context, was no longer a pioneer, or even new, structure. However, in Riba d'Ave, in the Portuguese Minho, certainly it was something different and, in some way, impressive. More important is that in few decades later, the industrial labor organization, the presence of dozens of textile industrial factories (not the wool production, however) will be (and still be) the touchstone of the region's landscape and cultural heritage.

Not very far from Riba d'Ave, about 25 kilometers to the east, another *brasileiro* had founded, precisely in 1873, the *Fiação do Bugio*, a cotton plant in the municipality of Fafe, also operated by a hydraulic wheel, or turbine. It was, however, a much larger mill: in 1881 employed more than 150 workers. The *Bugio* mill had the particularity of having been assembled and managed by James Lickfold, a mechanical technician that came from Manchester specifically for this purpose (Monica, 1987: 828). The presence of the English technician in a still very ruralized and relatively small region, as well as the technological imprint that he has caused among the other capitalists, certainly had some influence.

In this first moment, in the 1880s, the *Sant'Anna's* mill still appears to us once again, described in a much quoted passage from an 1887 *bucolic guide* to tourists, the *O Minho Pittoresco*, by José Augusto Vieira. In this book, although it has sometimes not been noticed, the author alludes to the factory's turbine: "*the whisper of the water cascade, which also discharges to feed the turbine of the woolen mill*" and states that the mill had 12 workers, producing a sort of wool canvas for the shoe industry in Porto (Vieira, 1887: 98).



**Fig. 1: Reminiscent structures of Sant'Anna's woolen mill, (Mário Pastor, 2017)**

The *sapatos de liga* (cloth and leather men's shoes, more or less like spats), as they were then called, made of woolen canvas, appeared at the time as one of the great new exports of the Porto's shoe industry (*Inquerito Industrial*, 1881: 167). Not only because it was a product of the new trends in men's fashion, but above all because they were a less expensive shoe solution for the low-middle urban classes that was beginning to develop, not at Riba d'Ave, where boots, clogs or even bare feet were the practice, but in the cities and abroad (Brazil was a big consumer of that type of cloth and leather shoes).

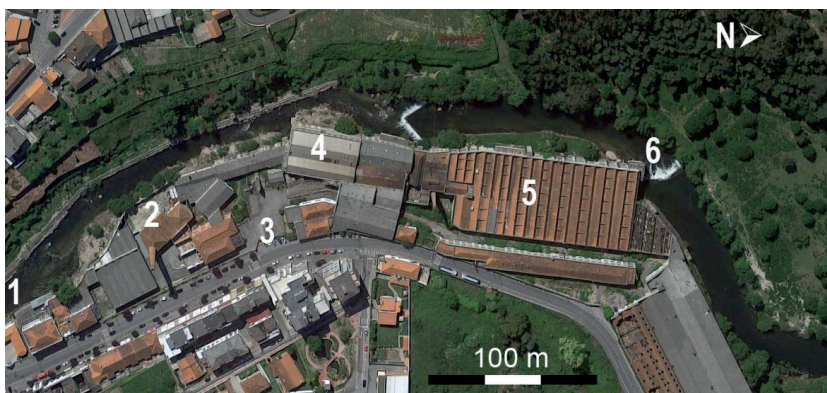
On the other hand, the scenario described in the 1890 *Inquerito Industrial* allows us to detect some differences from previous reports. There were only eight of the 12 workers who were mentioned in the book published in 1887. They worked on 200 spindles of wool, and all the wool were Portuguese (unlike Porto's woolen mill - Padronelo and

Lordelo, that used better imported wool). The cheaper, but lower quality national wool was suitable only for rough products, such as the shoe spats made of canvas or cloth referred to.

The reduction of the number of workers, already small, reveals a process of decline of the Baron's wooden mill, but without meaning in the general, now unstoppable, process of creation of the new blue-collar worker community that would come to characterize contemporary Riba d'Ave.

Confirming a certain declining of the baron of Trovisqueira's mill, the quoted register document (register no. 13980) indicates, on other addenda, that in August, 1901 the mill, now clearly called *Fábrica de Sant'Anna* (Santana is the place on the other bank of River Ave, crossed by the bridge next to the factory) had been sold by a court auction in the previous year. The mill was still working then, now producing not only the wool, but and also cotton, but, probably because of debts, was mortgaged by a civil court.

The sale of the factory does not represent its shutdown or physical disappearance in the landscape (however, probably some of the original structure was lost then). The sale reveals a new layer of transformation, a new stage that symbolizes, simultaneously, a new process of changes in social and political dynamics. The Baron's own death in 1898 illustrates the end of one era and the beginning of another one.



**Fig. 2: Riba d'Ave's industrial complex (Mário Pastor; cartografia base: Google Maps, 2016) – (1) Bridge over River Ave; (2) Old Bridge's Watermill and Fábrica de Sant'Anna ( N41°23'26.41"-W8°23'51.45"); (3) Sampaio, Ferreira & Cia. Entrance; (4) Dyeing pavilion (over the river channel to the turbine); (5) Spinning and weaving shops; (6) River dam**

### **3 MERGE AND OBLIVION - THE FOUNDATION OF SAMPAIO, FERREIRA E CIA. LDA.**

Like the turbine waterwheel, spinning in the river, time takes its own course, dragging and drowning old memories into the river. In 1900, on December 9, the land and facilities of the plant were sold by public auction for 4 *contos* and 1000 reis, at the court of Vila Nova de Famalicão (see addenda no. 5,407 to the aforementioned registry no. 13918) in favor of a new company that had just been founded in the vicinity. The act of registration of the new owner is from August 13, 1901:



*"It is registered in favor of the commercial firm Sampaio, Ferreira & Company, of Riba d'Ave, in this district, the transmission of the property described in book B43, page 117, under no. 13918."*

We believe that this document may clarify a repeated gap (as well as misunderstanding) that has been echoed by historiography about the purchase of the baron's woolen mill by Sampaio, Ferreira and Co. Ltd., by Narciso Ferreira. The erroneous date traditionally pointed out, 1913 (Fernando, 1994: 23 or Alves, 1999: 12), would be quite late and could limit a more accurate understanding of the expansion process of Sampaio and Ferreira new factory

The new industry, the assimilation of the Sant'Anna's mill and the new younger entrepreneurs, without the nobleness of Portuguese monarchist liberalism, represents the path to change that would soon lead to the establishment of the Portuguese Republic.

The barons of Trovisqueira, although of humble origins, had imposed themselves in the economic and political society of their time. In their house, in the center of the village of Famalicão, not far from Riba d'Ave, the barons received and hosted the last kings of Portugal on their visits to the North, between Porto and Braga. King Pedro V had been received there in 1861 with a lunch, and there he had a short nap. Two years later, in 1863, the new king (Pedro's brother), Luís I and the queen Maria Pia came to spend the night in this same house (Alves, 2001: 4-5), and D. Carlos, heir to the previous ones, had also been received by the Barons in 1891, also has a king.

Receiving the kings at home, to have them at the table and host them, is a social gesture that is of great symbolic significance of power and prestige, not only for the host, in this case the Baron, but for the whole community, especially one small and countryside community, such as Vila Nova de Famalicão in the second half of the 19th century.

Once again, like the wheel, this world of royal visits, pomp and circumstance, starring the baron and his family was about to end.

A new layer of historical transformation was already settled. The new industry, Sampaio, Ferreira e Cia. Lda., formed on July 24, 1896 (cf A.D.B. register acts of Vila Nova de Famalicão, V594 [old ref. Book 85], pages 44-47) began to be built a mere 200 meters from the barons' mill. Its founders belonged mostly to a new generation (Narciso Ferreira was only 34 years old, and was still a small rural weaver who lived in the area, sharing a social condition similar to that of the baron's workers). In that year, the Baron was still alive (he died in 1898), but ironically, by a curious destiny twist, the substitute clerk who wrote down the Sampaio and Ferreira's register act, was a young member, of the Trovisqueira family: Augusto Carvalho da Cruz Trovisqueira.

Sampaio, Ferreira e Cia. Lda., a spinning, weaving and dyeing cotton company (later also printing), is still a predominant presence in the whole of Riba d'Ave region (Fig. 2). The company was founded by six associated partners: three capitalists from Porto - José Augusto Dias, Manuel Joaquim Oliveira and José Fernandes; the engineer Ortigão Sampaio, also from the city of Porto, and the couple Narciso Ferreira and his wife, Eva Rosa de Oliveira. The couple was not only resident of Riba d'Ave, but already themselves owners of a pair of manual looms they had in their house. A house which included a small dam on the Ave, in a place called *Pena Cabrão*, where they produced, in a weaving regime complementary to the main activity, which was agriculture, some modest cotton cloths for the local market.

According to the contract with the other partners, Narciso Ferreira (1862-1933) would be responsible for the management of the entire new factory. Incidentally, he and his wife would be the only partners with an obligation to reside in the factory and attend daily their organization.

In a few years, and especially by the action of Narciso Ferreira, the new factory transformed the entire region surroundings and landscape. The purchase of the *Fábrica de Sant'Anna*, as early as 1900, is an example of the dynamics of this new local emporium.

The new industrial buildings start to grow fast along the river banks. New chimneys were built up, hundreds of workers, especially young women with poor salaries, found at Narciso, Ferreira & Cia. a way to supplement their family income, mainly dependent of the rural seasonality. Those changes created a new conception of Riba d'Ave's society. A microcosm or diorama of that would become the paradigmatic development model in *Vale do Ave*.

The new, fast modeling process of Riba d'Ave, naturally surpassed the walls of the factory. Narciso Ferreira and his heirs, especially Delfim Ferreira (1888-1960) and Raul Ferreira (1895-1974), transformed the small village in his image: the first electric services in Riba d'Ave were built by them. The fire station, the theater, the elementary school, the hospital, the market and even the Portuguese Republican Guard (GNR) station, all preserve the mark of the Ferreira family, having as its epicenter the great factory that, in its most productive phase, in the 1950s and 1960s, employed more than 5,000 workers and administrators. In the censuses of 1890, on the eve of the installation of Sampaio, Ferreira e Cia. Lda. Riba d'Ave had only 522 residents.

Naturally, the new social dominant class was very close to the new powers: first the new republic, found in 1910, and especially in following years, the *Estado Novo* dictatorship.

Nowadays, street names like *Avenida Narciso Ferreira*, *Rua Joaquim Ferreira* or *Rua Conde de Riba de Ave* (Raul Ferreira was made count, in 1947, by Pope Pius XII, a new strange nobility title, very far way from the old *constitutional baron* of the late 1800's) are some of the visible memories in the landscape. Inevitably, the wheel keeps turning, and the decline of the factory, in beginning of this century had a profound impact not only in the landscape, but in the all community.

## 4 CONCLUSIONS

In conclusion, we can say that the region and community modeling process has a very inner relation with industrialization. Sampaio, Ferreira & Cia. played a major role in this construction, but its long forgotten roots can be found in the old woolen mill, built in 1881 by Baron of Trovisqueira. The question is that these historic and social overlays of transformation are led as a natural process, without comprehensive criteria that could help to preserve the different heritage sensibilities.

The Baron's house in the Famalicão is another ironic example of the misunderstandings surrounding the local memory. As it had been said before, the Baron and Baroness, and the community, received kings in that house. Today it is a museum devoted to another prominent local (and national) figure: Dr. Bernardino Machado, a republican fighter and himself President of the Republic for two times

(1915-1917 and 1925-1926). It is a important memory, with no doubt, but a strange place to honor it, not for political reasons, of course, but because it overlay the memory and past of the house itself.

On the other hand, the historic Riba d'Ave, the seventeenth-century *Lugar da Ponte*, and the surrounding monastic lands, have almost disappeared. The famous bridge, still marked by an 1702 stone inscription, is now a passage hidden under the pavement road. Today it is even difficult to find the original bridge's arches, as if they were almost a long forgotten geological fossil.

The old and founding *Fábrica de Sant'Anna*, created by the Baron of Trovisqueira, was also lost, figuratively and literally, in the midst of the imposition of Sampaio, Ferreira & Cia. and all its adjacent structures. At the same time, the deindustrialization process of the large factory,(the company shut down in 2005) remains at the moment a pole of social transformation, but now in a descending direction.

The small commerce around the factory, the proletarian neighborhoods and, above all, the mass unemployment that haunts the region continue to orbit around the factory - either by the helplessness of those who look there, among the ruins, for a ceiling to sleep, or by the many former unemployed workers who continue to occupy the cafes in front of the factory, awaiting for an ever more distant past; or even by the scourge of the robbers who have torn the structures while searching for a few spoils of metal for scrap.

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# TWO ARTWORKS BY MAXIMIANO ALVES FOR THE COMBATANTS OF THE GREAT WAR, LISBON: THEIR COMPARISON AND SIGNIFICANCE

**Agnès Le Gac<sup>1</sup>, Ricardo Lopes<sup>2</sup>, Martim Arinto<sup>3</sup>**

<sup>1</sup> Departamento de Conservação e Restauro (DCR), Laboratório de Instrumentação, Engenharia Biomédica e Física da Radiação (LIBPhys-UNL), Faculdade de Ciências e Tecnologia (FCT), Universidade Nova de Lisboa (UNL), Campus da Caparica, 2829-516 Caparica, Portugal, e-mail: alg@fct.unl.pt

<sup>2</sup> Museu Militar de Lisboa, Largo Museu da Artilharia, 1100-468 Lisbon, Portugal, e-mail: lopes.rjass@mail.exercito.pt  
DCR, FCT, UNL, Campus da Caparica, 2829-516 Caparica, Portugal, e-mail: rja.lopes@campus.fct.unl.pt

<sup>3</sup> Departamento de História (DH), Faculdade de Ciências Sociais e Humanas (FCSH), Universidade Nova de Lisboa (UNL), Avenida de Berna, 26-C, 1069-061 Lisbon, Portugal, e-mail: martim.arinto@gmail.com

## ABSTRACT

This paper focuses on two artworks by the Portuguese sculptor Maximiano Alves, in Lisbon: the *Mausoleum to the Combatants of the Great War* (1933) erected at Alto de São João's Cemetery and the *Portuguese Soldier*, the statue of this very memorial, of the same scale but in painted plaster instead of bronze, on display at the Lisbon Military Museum. To date, very little is known about them and their specific relationship from a material and technological point of view. Based on recent research, this paper aims first to revise the circumstances of their creation in the context of the post-war period and then to discuss both tangible aspects inherent to their implementation and intangible values underlying their conception, their use and their transformations over time. Originality, Uniqueness and Palimpsest as concepts are addressed.

Keywords: Tangible Heritage / Immaterial values / First World War / Ancient techniques / Maximiano Alves

## 1 INTRODUCTION

With the centenary of the First World War (1914-1918) promoting further reflections on a past still so near and yet so far, a wide variety of approaches related to war memorials would be possible: the culture of war, the memorial function, the highly correlated notions of heritage (tangible), inheritance (intangible) and memory (as experience), the political ideology or the social and economic aspects inherent in the construction of such artworks, their aesthetic value, the purposes of Public Art, etc. This paper however focuses on two specific artworks by the Portuguese sculptor Maximiano Alves (22 August 1888-22 January 1954), in Lisbon: the *Mausoleum to the Combatants of the Great War*, erected in the Liga dos Combatentes' (League of Combatants) private burial plot at Alto de São João's Cemetery (Lisbon First Cemetery) (Figs. 1b, 3) and the oversized statue of the *Portuguese Soldier* permanently on display at the Lisbon Military Museum (MML) (Fig. 2), identified under number MML00604. This monumental sculpture is inseparable from the one in bronze that is erected on top of the aforesaid mausoleum. Their strong formal and dimensional similarities suggest that one of the two perforce derives from the other. Both artworks

have been barely investigated.

In Portuguese researches which concern either the statuary of Lisbon (Ferreira & Vieira 1985, Saial 1991) or cemeteries and the artworks they contain (Dias 1963, Figueiredo 2006) or more effectively, war culture (Correia 2011), the mausoleum of the First Cemetery of Lisbon falls very often by the wayside in relation to an earlier war memorial by sculptor Maximiano Alves and architect Guilherme Rebelo de Andrade: the *Monument of the Dead of the Great War*. This one has been erected in Avenida da Liberdade, in front of Rua do Salitre and the namesake crosswalk; therefore halfway between Praça dos Restauradores and Praça do Marquês de Pombal, two of the central Lisbon's most interesting plazas. It is important to clarify that this monument is the most relevant First World War memorial of Lisbon, which occupies a prominent place in the urban fabric, already central on the occasion of its inauguration in 1931. Although inaugurated two years later, in 1933, the *Mausoleum to the Combatants of the Great War* remains surrounded by walls in a remote space from the centre, even more peripheral in 1933 than today. Its particular function as ossuary leads somehow to its marginalisation. As for the museum statue, very little is known. It bears etched on the plaster of the base, on the right side, the name of the sculptor: M. Alves, and the year of its completion: 1933. Available data is almost identical to what is in sight. The inventory record, to which an informed visitor may have access in the MML database, mentions it as a 'maquette' on scale 1 and adds that the cast is due to a certain Bernardino Inácio Leite. Dimensions are not specified. For the outdoor cemetery statue (Fig. 1a) and the indoor museum statue (Fig. 2) are obviously linked by the technological processes that led to the current mausoleum look (Figs. 1b, 3), they have been studied in the framework of an interdisciplinary project "Portuguese First World War memorials as Cultural Heritage", involving contemporary history, military culture and conservation of tangible heritage.



**Fig. 1:** (a) 'A estátua que simboliza a guarda eterna, que será colocada no Ossário dos Combatentes da Grande Guerra'. 1933-03-10. Portugal, Torre do Tombo, Empresa Pública Jornal O Século, Álbuns Gerais, n.º 25, doc. 252H. - PT/TT/EPJS/SF/001-001/0025/0252H © TT-DIGITARQ; (b) 'Aspecto do mausoléu para os mortos da Grande Guerra, no Alto de São João'. 1933.04.07. Portugal, Torre do Tombo, Empresa Pública Jornal O Século, Álbuns Gerais, n.º 25, doc. 372H. - PT/TT/EPJS/SF/001-001/0025/0372H © TT-DIGITARQ

**Fig. 2:** (a) 'Museu Militar, monumento ao Soldado Desconhecido, em gesso, na sala da Grande Guerra. Escultura de 1933'. 1968. Armando Maia Serôdio (1907-1978), fotógrafo. Portugal, Arquivo Fotográfico da Câmara Municipal de Lisboa. Cota antiga: A65664; N63261. Doc. PT/AMLSB/CMLSB/PCSP/004/SER/S05911 © AFCML; (b) the Portuguese Soldier - 2017 © Agnès Le Gac

In this research, investigations on the two artworks were conducted in parallel. The main difficulty consisted in collecting records highly dispersed between several institutions, and also accounts from witnesses having credible information on the subject. Even by crosschecking the available data (manuscripts, typed documents, official reports, newspapers articles and interviews) significant gaps exist. Even then, data recently collected on these artworks, which includes elements poorly known, forgotten or unpublished, gives an insight into the production context of these objects, the materials they are made of and their journey in the last decades, enabling to examine what makes their singularity and the messages they convey. On this basis,

a special emphasis will be given on ancient techniques, concepts of *uniqueness*, *originality* and *copy*, and the transformations the works undergone, in which the idea of *palimpsest* will be also discussed.

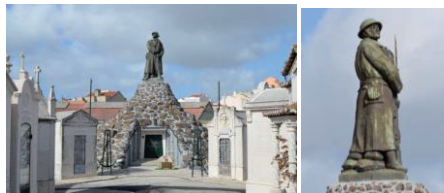


Fig. 3: (a) Mausoleum to the Combatants of the Great War, general view; (b) Idem, detailed view, 2017 © Agnès Le Gac

## 2 PORTUGUESE HISTORICAL CONTEXT - 1916-1933

The First World War or 'Great War' (1914-1918) is a conflict that had serious consequences for Portugal. Portugal integrated the conflict after having already undertaken a first mobilisation initiative aimed at securing its colonial territories in Africa. The hostility declarations made by Germany in March 1916 were a result of the Portuguese stance adoption of direct intervention in the European theater of operations in favor of the Allies. In turn, this formalisation led the country to take more interventionist measures in the conflict, even mobilising a contingent, designated *Corpo Expedicionário Português* (CEP-Portuguese Expeditionary Corp), to fight in Europe without the liability of the security of its territory being engaged.

Given the human dimension that the First World War had in Portugal, either directly on account of the combatants' death or indirectly on account of their families, the country initiated a series of monumental building projects whose main objective was to affirm the Portuguese participation in the conflict. Having started in 1919, monumental edifications peaked in the 1920s and 1930s. This artistic movement was not a national phenomenon since it was part of a tendency that has been instigated by the victorious nations of the war. Despite the economic difficulties, the states supported monumental constructions as a means for historical and international identity affirmation. In the Portuguese case, this reality is even more striking since the country was submerged in political instability and was also on the threshold of a civil war. As such, the focus on a project of artistic dedication to the remembrance of the First World War was a definitive step of political affirmation on the part of the First Portuguese Republic (1910-1926). It was a means of propaganda to the interventionist initiative for the glory of the achievements made, albeit with an ever present connotation of a particular relation with the image of the true intervener in the war: the combatant.

At the head of these initiatives was an organ specifically created for this memorial purpose, the *Comissão dos Padrões da Grande Guerra* (CPGG - Commission for the Official Monument of the Great War). This was the budget holder that delegated the instructions to local executive committees, which in turn defined the projects and launched the tenders. What is interesting in this nexus is the fact that, at the head of these same bodies, military figures were always present – unavoidable figures to understand the whole process of remembrance of the war, even after it ended. Soldiers were, even before the military dictatorship, the main agents of the dynamics and perpetuation of memory. Their testimony, as well as their mentality, globally reports to the mournful, yet glorious, idea of the martyr. This speech would later counteract, and get reinforced with the military dictatorship of 1926 – «(...) the military disaster that had been for CEP the Battle of La Lys on the 9<sup>th</sup> of April 1918, stayed as



the collective traumatic idea of a 'mutilated victory' that would not allow the political conditions, enough or necessary, to reclaim the compensation for participation and war effort in a dignified and honorable manner, in a future peace conference.» (Sousa 2011). The war memorials built in Lisbon, as the physical representation of the *Monument of the Dead of the Great War* and the *Mausoleum to the Combatants of the Great War*, are both composed by two clear ideas: the first of which is focused on funerary symbolism, and the second on the realistic and simultaneous specific figure of the combatant, the military. The Lisbon cases would be a clear indication of the recognition and devotion promoted around the Armed Forces, although António de Oliveira Salazar would interrupt this process as he increasingly became the political authority (Meneses 2012). The Liga dos Combatentes da Grande Guerra (LCGG - Great War League of Combatants) was created in 1921. According to Articles of the League, «it will be its responsibility, within a republican civic conception, to promote the creation of plots throughout the country to bury former combatants in civil cemeteries, in honor of those who sacrificed their life for their homeland and who often had insufficient resources to afford a burial that dignifies them» (Sousa 2011). «The creation of the Talhão dos Combatentes da Grande Guerra (private burial plot) in Alto de São João's Cemetery in Lisbon serves fitly as an example for the rest of the country [...]. Thus, it was at the meeting of the Administrative Commission of the Municipality of Lisbon, on the 21<sup>th</sup> of October 1926, that the proposal for the creation of a burial plot in Alto de São João's Cemetery was presented and approved unanimously» (Sousa 2011).

### 3 MAUSOLEUM TO THE COMBATANTS OF THE GREAT WAR

The mausoleum under study has been designated «Mausoleum to the Combatants of the Great War» «Monumento-Jazigo» (Memorial-Crypt) and even «Monument to the Unknown Soldier», which apparently makes no sense since the soil monument in Lisbon which could have once contained such remains was the *Monument of the Dead of the Great War* erected downtown, in Avenida da Liberdade. A grave for two unknown soldiers is located at Monastery of Batalha, due to its cultural and psychological significance in history. It became «a patriotic place of pilgrimage where the national soul could find sanctuary». As it stands today, the *Mausoleum to the Combatants of the Great War* lets perceive nothing about the vagaries of its conception. There is no evidence on site to suggest that its design appeared somehow controversial. Albeit the fact that three architectural propositions were made first, none of them were adopted

While the foundation stone for the mausoleum was laid on the 22<sup>th</sup> of March 1927, the construction of the mausoleum was expected shortly after. The first project was entrusted to architect Casimiro Fernandes, in 1927, at the request of the Administrative Commission of Câmara Municipal de Lisboa (CML - Lisbon's City Hall). Its geometrical shape matched the more standard sort that was created for tombs during the 19<sup>th</sup> Century. In the newspaper article dated 25 March 1927 giving account of the cost involved (50,000\$00 escudos) and the three-month period of its construction, this design was rated 'poor' (*O Século* 25/03/1927). With the selection of another project in view, a proposal aiming at launching a competition among the national architects was made on the 16<sup>th</sup> of April 1927 (CML-BM 16/04/1927). Even though a full competition was opened on the 24<sup>th</sup> of June 1927, that would provide the best classified work with a prize of 2,000\$00 escudos, not even an application had been submitted. To find a way out this political and aesthetical impasse, the Conselho de Arte e Arquitectura

(Council for Art and Architecture) was finally asked to design the monument (CML-BM 04/08/1927). The project by architect João Antunes was deemed perfect for the purpose. The remaining drawings and descriptive memory show a mausoleum most square in shape, with a large obelisk in the middle enclosing the interment space for the skeletal remains of the combatants of the First World War, and with sets of shells on both sides and at the back. Despite this approval, an alternative to this project by architect Cassiano Branco, claiming for a new location with a more favourable panoramic view, was issued on the 14<sup>th</sup> of September 1927.

The final monument, conical in shape, bears no relation to any of the aforesaid designs. More than 7 meters high and 12 meters in diameter, the present free-standing building has the unique features of an above-ground fortified shelter. It is instantly recognizable for its rise of stones – built with superimposed basalt rocks which resemble sandbag reinforcements – and its access made of rounded timber and wooden planks – cast in cement. It is, beyond dispute, a field fortification. It alone evokes this harsh attrition warfare which marked the Flanders area, the Western Front: the main theatre the defence system of which relied on a heavily fortified front line of trenches. It seems that this design was first restricted to such a stone-mound. Only in 1931 did the proposal to add the figure in the round of a Portuguese soldier appear, in order to «embellish» this great heap of stones. Directly appointed to take on this challenge, Sculptor Maximiano Alves designed the model. A photograph dating from the end of January 1932 shows a maquette of it (scale 1/10 ?), either to be evaluated by the Commission or already approved. CML decided the amount of 5,200\$00 escudos was to be allocated to the labour of the final work construction in March 1932 (CML-BM 10/03/1932) and Liga dos Combatentes voted a further 10,000\$00 granting, a sum recovered from the positive balance from the *Monument of the Dead of the Great War* erected downtown in Lisbon, in 1931 (CPGG [s.d]).

This cost seemed surprisingly low for a statue supposed to have always been cast in bronze. It is the newspaper *O Século* dated 10 March 1933 (exactly one year later) which reveals the fact that the figure, «4.50 meters high», had to be cast in cement! At that time the clay model of the statue has just been completed. A photograph shows the work flanked by Maximiano Alves (right side for the viewer) and by Simão Xavier, his assistant, on the opposite side (Fig. 1a). It should be noted that without the written text to support these facts, the visual record alone would fail to recount the history. In the very end, there had been hardly one month left prior to the mausoleum inauguration, scheduled for the 9<sup>th</sup> of April, at 02:00 pm. (*O Século* 10/03/1933).

This situation poorly explains the substitution of the cement statue by its bronze-cast (Fig. 3). Only in 1950 was the proposal to proceed that way made by the LCGG member Raul Lino. The text, full of poetic fervour, demanded «a more appropriate tribute to the men who put their lives at risk for the Fatherland». This proposition seems coincident with new decisions concerning the mausoleum purpose, by constructing a two-aisled crypt underneath capable of sheltering catacombs (LC-RG 1950). The substantial amount of 185,000\$00 escudos was then allocated by the Direcção Geral da Fazenda Pública, the 30<sup>th</sup> of September 1950, «for the casting of the figure of the Soldier meant for finishing off the Crypt to the Combatants, in the Alto de São João's Cemetery» (LC-RG 1950). From this project, to be carried out in several phases over a few years, two moments were crucial: the year of 1952, which should include the first catacombs and the statue bronze casting. However, according to the *Relatório de Gerência* of 1952 (LCGG), on the occasion of the transfer of the mortal remains of Marshal Gomes da Costa, it seems that only the new catacombs had been inaugurated. Nothing is said about the bronze statue and no mention was found

thereafter; even during the second phase, which occurred between 1956 and 1957, when the second catacombs were to be built and bronze ornaments to be dismantled from the graves to suit the excavation process (CML 1956, 1957).

The burial plot maintenance being the responsibility of Liga dos Combatentes, room for new burials was always needed. Older bones could be dug up and buried in the ossuary to make space for new interments. At present, this single tomb contains the remains of more than 7.500 people, namely combatants in the overseas Portuguese territories (especially in Angola, Mozambique and Portuguese Guinea), thus from the Portuguese Colonial War, which occurred between 1961 and 1974. A few dates marked some improvement for the whole burial plot, like in 1968 when new parcels were provided by CML for accommodating 270 graves more. 1968 is not fortuitous since it corresponded to the fiftieth anniversary of the Armistice and commemoration of the Battle of La Lys. The most noticeable decision on that date corresponds to the definitive consecration of all the memorials of the First World War erected on the territory «to all combatants who died for the Fatherland». It was a matter of «honouring the memory of all, in a single manifestation of nostalgia and gratitude, without distinction of time or place, giving equal esteem to all those who, on behalf of Portugal, have already given or will give their lives in the battlefields. This decision, unanimously approved at the LCGG session of November the 28<sup>th</sup>, 1966, and put into practice in the form of bronze plaques affixed to all the Portuguese memorials, gave rise to an irreversible change: all the monuments erected on account of the First World War, also became the memorials of the Overseas War and possible future conflicts.

## 4 CASTING

In 1933, whatever the cast process might have been, it required several complex and laborious tasks, in which every tangible result was assigned a specific technical term and status. So, from a material and technological point of view, it is advisable to keep in mind the general principles of casting, here summarily described after the works by Baudry and co-workers (1975) and Basset & Folgeman (1997).

- 1) The first step coincided with the act of creation. It consisted in making the *model*. Maximiano Alves made out the original oversized statue in clay, a water-based and pliable raw material, with the challenge of not letting his work dry out. Portraying such a large figure implied that clay be modelled around a complex armature (made of wire, iron or other materials) for bearing the weight of the clay during the sculpture shaping and holding every compositional element in place.
- 2) Once the sculpture was achieved and already damped, a negative imprint of this solid original clay was to be made at once. As in 1933, neither polyurethane mould compound nor high-quality silicon rubber was available, a two-part-mould called *hollow-lost casting* ('moule à creux-perdu', in French), was entrusted to a mouldmaker and produced with gypsum plaster. As the name of the process indicates, the opening of this bivalve mould resulted in the removal of the matter held inside, thus the destruction of the *clay model*.
- 3) Gypsum was a possible choice for providing the further replacement of clay by a more durable and long lasting material. As gypsum is capable of picking up the minutest details, the *clay model* could be accurately reproduced, conserving any tool marks and dynamic gesture left on the exposed surfaces by the sculptor. The *hollow-lost casting*, once cleaned, dried and coated with a release agent (soap), would receive a first inner coat of coloured fresh gypsum plaster before being closed again. A second batch of uncoloured fresh gypsum plaster would then be poured out into the mould. The release of the dried solid plaster pattern was then achieved by progressively destroying the mould itself. The obtained plaster statue, as *prototype*, known as *plaster model*, remained the unique *original* by the sculptor. It is thus considered as an autograph work, in spite of the essential contribution of the mouldmaker to

reach this single and much sought-after result.

- 4) The *plaster model*, somehow fragile but irreplaceable, was to be conserved apart, intact. So replica of it should be provided for further casting (whatever the technique, cold- or hot-casting in view). To this end, a *piece-moulding* of the *plaster model* was made. The more complex the sculpture and diverse the number of undercuts, the higher the number of smaller plaster moulds, each creating a section of the intricate parts of the object. Such a set of moulds resulted in a *multi-part mould*, also called *piece-mould* ('moule à bon-creux', in French), in which the pieces, rigorously adjusted one to another, could be disassembled and reconstructed at will, allowing for a new plaster pattern, a *plaster replica*, to be cast and released easily.
- 5) At this stage, it is essential to refer that a replica could also be cold-cast in cement (instead of gypsum plaster), as a whole or in several parts to be subsequently joined. In such case, however, the *multi-part mould* could be damaged. This situation deserves our attention for the discussion below.
- 6) In most of the case, a *plaster replica*, also called *plaster workshop* (based on the literal translation from 'plâtre d'atelier', in French) or *foundry model* (because of hot-cast processes mainly used) should serve as model/pattern for casting, allowing a new *multi-part mould* to be made; thus without the *plaster model* or the very first *multi-part mould* running the slightest risk.
- 7) For an oversized sculpture to be cast, either in cement or in bronze, the *plaster replica* or *foundry model* could be cut in several parts to make its transport easier. Each part would need its own individual mould. After the sculpture was cast, the cement or bronze constitutive parts would be further rejoined to make the complete sculpture whole again. The same could happen regarding the *plaster replica* if it would not be used for further replication. This latter facultative process may be considered in the case under study.

Carlos Bernardino Leite suggested that the *plaster replica* of the *Soldier* was at least cut in two or three parts, each unit being limited in length to easy transport by truck until the foundry established in the northern region of Portugal, in Gulpilhares, near Vila Nova de Gaia and Oporto. Regarding the *plaster model*, it was likely sheltered and carefully preserved in Lisbon, as nothing else could ever reproduced, with such quality, the very first clay statue directly modelled by hand by Maximiano Alves. About this *plaster model*, nothing is known and there is no evidence that it has been conserved elsewhere. The principles of casting were worth recalling to have a better understanding of what the concept of 'originality' may encompass in the current case-study and the underlying system of values. Most of the time, casting relates to an edition issue. An edition can comprehend up to 12 bronze-replica or casts from the same piece-mould. Quoting Bassett and Fogelman (1997), «the resulting bronzes, sometimes called replicas, are substantially the same in size, form and composition. The repeated use of the same mould [our underline] ensures consistency among the bronzes in the edition» It is assumed that «slight variations may occur due to differences in casting flaws and chasing (the finishes of each bronze) or to deterioration of the moulds» In such edition, all bronzes are considered 'originals'; at least according to the French copyright law, since 1981 onwards. Any additional cast would be considered a mere copy.

Since the *Portuguese Soldier* was first cast in cement and then in bronze more than 25 years later, further development in the current case-study is required as to: 1) the status of the indoor plaster sculpture on display at the museum, and 2) the status of each cast outdoor statue.

- 1) With regard to the indoor plaster sculpture, archival material, if any left, is still to be recovered. Nevertheless, the painted plaster statue at museum bears witness of some parting lines (joints areas) on the surface, which suggests that this example is rather a plaster replica; maybe the one employed as a model by the foundry, that had been cut to ease both its transport and bronze casting, as discussed above. Indeed, for the Portuguese

Soldier was an oversized sculpture, we know that Bernardino Inácio Leite used moulds formed with green sand (Carlos B. Leite). This plaster replica would have been returned to Lisbon later on, then to the museum and reassembled there for its further conservation and exhibition. Because of its value, it is very hard to believe that the plaster model itself had been cut to undertake the whole bronze casting process in Gulpilhares, during the 1960s, and its pieces joined again afterwards, in Lisbon.

- 2) With regard to the outdoor examples meant for the mausoleum, are the 1933-cement-cast statue and the later bronze-cast statue equivalent in term of status? Within the context of the 1933-cement-cast, data is lacking as to the artist and the sponsor policies regarding the number of cement works that should be made. The fact that the mausoleum required only one statue lets us believe that only one cast was to be produced with cement. Whether the same multi-part mould should have been preserved with the aim of making a bronze-cast at a later stage, in order to replace the initial affordable cement-cast, is not clear. So what is the status of the bronze-cast currently on display in the cemetery? In case this bronze-cast was initially sketched out, may it be considered as an 'original' too, even though the material used in this subsequent example does make a difference? In case the option of producing a bronze was not considered at the time (therefore implying a limited edition to one cast right from the start), should the current sculpture be considered a copy? In that case, in which condition would the bronze casting be technically feasible? With which mould? Was the mould used for the cement-cast preserved, for ensuring consistency between the cement-cast and the bronze-cast? All questions are unanswered at this point. What we do know is that cement shrinks during the solidification process. In the event that the cement-cast was to be used as a new model to proceed with the bronze casting, implying an overmoulding process, the resulting bronze would surely be smaller than the plaster model (the original par excellence) and accordingly, be considered a copy.

It is important to recall that the act of creation by Maximiano Alves was intended to fulfill one purpose: the production of a cast statue, made out of cement, capable of giving to the figure – and by extension, to the mausoleum –, the expression idealised through its specific implementation. In this context, from the *clay sculpture* to the *plaster replica*, all models, moulds and duplications were means to an end. None of them were made as an end in itself. All constituted 'valuable tools' without which it would not have been possible to achieve the intended artwork. In ancient techniques, in which practices tend to be lost or overwhelmed, every tangible artefact remaining from such procedures has a documental value, thus an obvious and integral importance in all consideration of experience, knowledge, sustainable conservation and potential development. Most of all, in the present case, any artefact left is unique, and this uniqueness, which should not be confused with originality and has nothing to do with the quality of being outstanding or not, is equally fundamental since the artefact generates knowledge. It is inspiring. In that sense, it is literally invaluable.

## 5 STATUE IN PAINTED PLASTER

The very alike sculpture made of gypsum plaster, which was further painted, is exactly 4,38 meters high (height 4,38 m x width 1,87 m x depth 1,65 m). It depicts a Portuguese soldier in a 'lookout' position, standing confident on his feet slightly apart, leaning both hands on his gun, and the eyes toward the horizon (Fig. 2). As referred above, very little is known about this painted plaster statue accessioned to the Military Museum. The available information on the organization of rooms devoted to the First World War (1914-1918) within the Military Museum is also very limited. In the 10th edition of the 1930-catalogue, a large space was already planned but mostly used as storeroom for war artefacts. The statue under study is not mentioned and for good reason, dating from 1933. It will be necessary to wait until the following edition, only published in 1979, for the statue to be duly referred. Its relationship with the

mausoleum erected at Alto de São João's Cemetery is summarily established. A draft catalogue of the museum, dating before 1979 and containing manuscript and typed documentation, offers the complete list of objects then on view and their location on the drawing plans of the rooms. At that time, there were three rooms dedicated to the 'Great War'. In this particular context, three 'maquettes' were registered as follows: two 'maquettes of the War Memorial', as number 35 and 41 in Room 2 [currently Room 1]. For these two artefacts labelled in the same manner, no further details or dimensions were provided; and one 'maquette to the Unknown Soldier', recorded as number 50 in Room 3 [currently Room 2]. Because of the surrounding artefacts, also kept in place over time, there is no doubt that this third 'maquette' was already the plaster statue under study. The term 'maquette' is obviously confusing since the term implies a model at a smaller scale, while the work is literally monumental. Its title 'Unknown Soldier' is quite interesting and would deserve some consideration.

It is mainly a photograph found in the Arquivo Fotográfico da Câmara Municipal de Lisboa (AF-CML), taken by Armando Maia Serôdio (1907-1978) in 1968, which provides a conclusive evidence of the existence of the statue within the museum, that year (Fig. 2a). The plaster was painted and not left untouched, as deduced from the range of greys on the black and white photograph. The patina imitated already the type of bronze finishing that exists today. This option suggests that this plaster statue would have not serve any more and that the bronze-cast statue had been done. Both the exhibition of this plaster and its patina, attested in 1968, raise several questions: When did the statue enter the museum? How was it brought in? On which occasion? By whom? Who painted the statue and why? Since when was it displayed in such manner?

The name of Bernardino Inácio Leite, as the founder of the bronze-cast statue erected in the cemetery, allowed to disclose some crucial technical aspects. Carlos Bernardino Leite, the only one left from his family-owned company, son of Bernardino Inácio Leite, provided important information. Being his father the founder, the statue could never have been cast before 1959, since it was on that year that he guaranteed the continuity of the foundry created by Bernardino Inácio (Carlos Bernardino Leite's grandfather). In fact Bernardino Inácio Leite would have returned from Angola in May or June of 1959 to finish an undertaking his father had in hand when he died in April of this very year. Considering that the average time for casting a statue at that time was 3 months (depending on its size) and given the period of time needed to deal with matters related to his grandfather's inheritance, Carlos Bernardino Leite believes that the statue would not have been cast before 1960, or at the soonest, at the end of 1959. Carlos Bernardino Leite also mentioned the name of José Branco, nicknamed 'Faiunça', a professional established in Lisbon, likely to have done the plaster-cast and the subsequent patina. Although, it is unlikely that the *plaster model* was by Faiunça. According to the oral testimony by Irene Lucília Andrade. 'Faiunça' was of circa 40 years of age in 1968, thus born about 1930, at the time the cement sculpture was to be cast or done already. If he is the author of the museum statue, then it must be considered that this work cannot be the *plaster model*, the 'original' by Maximiano Alves, but a *plaster replica*. Even then, remains the question to know whether this *plaster replica* has been made or not from the *plaster model*: by using the first multi-part mould, by producing a second multi-part mould or by doing an overmoulding of the cement-cast? Indeed, depending upon the state of conservation of the original plaster patterns (*model* and mould) almost a quarter century later, a direct overmoulding of the cement statue may also be envisaged; which should change greatly the plaster artwork status and therefore its intangible value as tangible heritage.

There are two testimonies relating to the activity of 'Faiunça': one by Helbert Batista, himself a sculptor, registered by António Coelho (2014) for his research on Sculptor Martins Correia; and another by Irene Lucília Andrade (2008), Painter and Writer who knew 'Faiunça' well in 1969. The former recalled the great adaptability of 'Faiunça' when he assisted Correia for his large clay works requiring the construction of internal armatures, and his ability to follow sudden changes occurring during the creative process; the latter, who trained in Lisbon in 1968-69 and was given access to a studio within the remaining disused 1940-buildings of the Portuguese World Exhibition in the Belém area of Lisbon. 'Faiunça' worked there at that time and helped Irene. According to her, Faiunça was a stone carver and a mouldmaker, a gifted, responsive and versatile professional, capable of meeting the technical needs of his contemporaries, especially sculptors he assisted in their monumental undertakings. The modest temperament of this renown 'handyman' led to his progressive oblivion, not having left his mark in the works in which he would have participated. Carlos Bernardino Leite considers the possibility that this same 'Faiunça' having also carried out the patina of the museum statue, for he was amongst the very limited number of those who, throughout the country, had a recognised know-how in this type of pictorial finishes.

## 6 STATUES AND MEANINGS

The fortification built in the cemetery in place of a traditional mausoleum reinforces the idea of a defence and military setting, as in the trenches, but for an eternal rest. The semiotic association of the heap of stone with the monumental figure of a Portuguese soldier on the top, meant to «embellish» the memorial, reveals the desire to give the ossuary a certain accent of nobility, to humanize the somewhat austere construction. But it is, above all, a mean to enhance a symbol more specific to the Portuguese participation in the theatre of Flanders, the particular day of 9<sup>th</sup> of April 1918, where the 2<sup>nd</sup> Division of Portugal suffered a considerable number of casualties. It is not by chance that the main ritual organised every year next to this mausoleum occurs that very day. The mausoleum became its very emblem. The mausoleum meaning is all the more strong and efficient that it is figurative and understandable, even to outsiders and young generations. In both the outdoor and indoor statues, the iconography is identical and the 'works' are similar. Iconography is essential, since the uniform clearly refers to that of the Portuguese troops. The gabardine, worn in cold and damp weather, evokes the drastic conditions of life of the soldiers in the trenches in the still cool and rainy month of April. It refers to the so-called 'Spring Offensive' of the Germans, and more specifically, recalls the Battle of La Lys on the 9<sup>th</sup> of April 1918, where the 2<sup>nd</sup> Division of the Portuguese Expeditionary Corps (CEP) was virtually annihilated. The British Mk 1 helmet, also known as 'shrapnel helmet' (but also colloquially called 'dispan hat', 'washbasin' or 'battle bowler'), is the typical combat helmet meant to protect the wearer's head and shoulder; a distinctive attribute since it was the very first modern combat helmet made out of steel used against modern weapons – namely shrapnel shell projectiles bursting from above the trenches (Edwards 2013). This particular helmet, which began to deploy in France late in 1917, was also used by other countries. Portugal was one of them. Besides recording those times and the Allied war effort, the helmet alone refers to any battle. As such, it works as a stylistic figure. The sculpture itself is also used as a visual synecdoche. The figure depicts a soldier of infantry, like those who were detached in the trenches on the Front, but intentionally portrayed without any distinction of rank; which enables him to encompass all combatants, the whole Portuguese Armed Forces. As he may evoke any soldier whoever he was, his anonymity recalls the *Unknown Soldier*; a situation which led to

'erroneously' give this label to both the mausoleum and the plaster work. As is shown in reports by the CPGG (1936), further interpreted by Jorge P. Sousa (2011), «the monuments for 'Unknown Soldier' erected after the First World War proved the need, prevailing even at the time, to glorify, to find a 'who', an identifiable person whom four years of carnage had failed to reveal. The frustration of this desire and the willingness in not accepting the brutal fact that no one had really been the agent of war, inspired the construction of these monuments to the 'unknown', to all those whom the war had deprived, not only of their identity and their acts, but of their human dignity as well.»

The fact that the indoor plaster statue is isolated within the museum, as an 'autonomous' artefact, with no direct association with any fortification, strengthens the reference to humankind and its physical members, thus a tangible value (while the composition of the mausoleum strengthens the idea of eternal rest in death, thus an intangible value). The policies which led to the plaster setting reflect this intention of magnifying the Human, the combatant: the human figure does not stand on a pedestal, but on a relatively thin and modest base, quadrangular in shape. The soldier, without a transitional element, is on the same level with the visitor. Yet he is not his equal. Because the statue is out of scale, it materializes, both literally and figuratively, the greatness of this fighter counted among the victors, and therefore his moral grandeur. Even if a patina coating became commonplace throughout the 19<sup>th</sup> century to give plaster models the appearance of bronze, while preserved as indoor artworks, the application of colour makes all the difference, both materially and 'immaterially' speaking. A comparison between the cemetery statue and the museum painted plaster does not even provide a hint of the cement initially used in the monument. On the contrary, for both patterns relate to the same material – bronze – it suggests that the outdoor sculpture was always intended for bronze casting. Bronze appears all the more legitimate because, like stone, a material offering great solidity, stability and strength, the value of bronze durability is closely related to that of eternity; which is the exact purpose of a permanent memorial to ensure that the Portuguese involvement in the First World War would ever be forgotten. It was quite a surprise to perceive that the cemetery statue was originally made out of cement. This information explains the statue's very light grey and matt colour shown on the photograph taken right before the inauguration, on the 7<sup>th</sup> of April 1933 (Fig. 1b).

Moreover, as it stands, entirely covered with a monochromatic painting, the plaster statue has been given a new meaning. The colour, of a green which imitates the patina of a bronze and the corrosion phenomena associated with it, modifies the general perception of the object. Not so much because of the coating by itself, which remains uniform, but because of the colour and its specific effects: physical and physiological, analogical and symbolical. Physical and physiological, because the green colour gives the statue a more impressive bulk that the plaster left untouched would do, while of a white colour and capable of reflecting light. Analogical, because the colour green imitates bronze, a noble metal the plaster statue is not made of; and this imitation deceives us about its robustness and its original function. While the plaster work was part of a step-by-step process and not the expression of its term, while it is somehow stigmatised by its ephemeral character (a meaning that gypsum, as a more fragile matter, may be associated with), the bronze appearance lets believe otherwise. Symbolical, because the colour green, in a codified system of identification well accepted, if not perfectly assimilated nowadays, easily refers to the military class and its conventions, namely that of clothing. And yet, such patina obscures the fact that the Portuguese uniform worn in 1916-18 was of a grey colour, what cement, as greyish raw material used in the statue firstly cast, might have implied symbolically. Making



new with old by adapting the old object to a new function is what could be called a *palimpsest*. The 'palimpsest effect' is the term proposed by Gérard Genette (2006) «in order to have a word other than 'diversion' or 'recuperation'» while considering the re-use of old industrial structures to make new houses. In the present context of the transformation of a historically meaningful statue, which have technical and cultural implications, the idea of palimpsest is due to the «never-obliterated contrast between an ancient form still perceptible and the still distinct function it imposes». Therefore, it takes the place of a metaphor, where the object in its transformation makes perceptible, as «in transparency», the superimposing of two uses from the same matrix. The transformation allows the value of what is underneath to be entirely preserved, since the painted coating is rather thin and does not basically mask the pattern itself and its surface texture. It is a complement, a minimum transformation necessary to its new usage, rather than a destruction or replacement. In this case, the plaster is modified by an additional interpretive layer. As demonstrated, intangible values are now inextricably associated to this tangible aspect and however small it is, it greatly *matters*.

## 7 CONCLUSION

While studies on the *Mausoleum to the Combatants of the Great War* (1933) erected at Alto de São João's Cemetery and the statue of the *Portuguese Soldier* on display at the Lisbon Military Museum are quite scarce, the current survey helped have a first insight into their history and manufacturing process. The fact that the bronze-cast statue of the mausoleum first came about as the result of a belated decision to «embellish» the ossuary is of particular note; but the most surprising fact relies on the material nature of the first cast originally done with cement instead of bronze. About the cement-cast, only written and visual documents can give today evidence of its earlier existence. It would seem that this cast has been destroyed. It would be expected that the differences in techniques between the two artworks under study should provide the clearest available explanation of their relative chronology. So far, however, from the raw material to the achieved statues, it is hardly established at which stage of the *chaîne opératoire* the museum plaster belongs. That is the reason why this plaster statue continues to be an ambiguous documentary record. Further research is needed to have a better understanding of its 'status', as far as the values regarding originality and copy remain at stake within the legal interests and conventions that govern sculptural creations. The materiality of the artworks and how it is perceived within a specific historical and physical context is a main concern. Currently, both sculptures achieve specific effects through surprisingly considered means, despite the sculptor's intention. So further deliberate choices by third parties regarding the object materiality should never be overlooked since they may have a considerable impact on its reading and interpretation.

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# HERITAGE VALORIZATION THROUGH REUTILIZATION: THE CASE OF SÃO SEBASTIÃO'S CHAPEL IN ÉVORA

**Virgínia Glória Abreu do Nascimento<sup>1</sup>, Fernando António Baptista Pereira<sup>2</sup>,  
António Candeias<sup>3</sup>, Alice Nogueira Alves<sup>4</sup>**

<sup>1</sup> Faculdade de Belas-Artes da Universidade de Lisboa / Centro de Investigação e Estudos em Belas-Artes (CIEBA) / Laboratório HERCULES, Largo da Academia Nacional de Belas-Artes, 1249-058 Lisbon, Portugal, e-mail: vgloriaanascimento@gmail.com

<sup>2</sup> Faculdade de Belas-Artes da Universidade de Lisboa / Centro de Investigação e Estudos em Belas-Artes (CIEBA), Largo da Academia Nacional de Belas-Artes, 1249-058 Lisbon, Portugal, e-mail: fernandoabpereira@gmail.com

<sup>3</sup> Laboratório HERCULES e Departamento de Química, ECT-Universidade de Évora, Palácio do Vímoso Largo Marquês de Marialva, 8, 7000-809 Évora, Portugal, e-mail: candeias@uevora.pt

<sup>3</sup> Faculdade de Belas-Artes da Universidade de Lisboa / Centro de Investigação e Estudos em Belas-Artes (CIEBA), Largo da Academia Nacional de Belas-Artes, 1249-058 Lisbon, Portugal, e-mail: alicenalves@gmail.com

## ABSTRACT

The reuse of historic buildings as a way to ensure its maintenance and the preservation of its incorporated heritage has been encouraged, over the past decades, by both national and international legal frameworks. The adaptation of the worship space to new uses is the starting point for a discussion about the attribution of historic, artistic, functional or worship value to religious buildings and about how this evaluation affects its preservation. Considering the special case of São Sebastião's chapel, in Évora, Portugal, we will discuss its patrimonial route and the building's recent adaptation to the Orthodox cult.

Keywords: São Sebastião's chapel / Worship reutilization / Cultural valorisation / Integrated heritage / Altarpiece

## 1 INTRODUCTION

The continuous usage of religious buildings leads to the adjustment to its functional needs and to the taste of each period, including new objects and excluding others, in a succession of decorative campaigns that materialize the religious experience of the place.

In the context of the Ph.D. project entitled «The preservation of altarpiece paintings integrated in historical buildings: contributes to their conservation and musealization», which is a part of the Doctoral Program HERITAS – Heritage Studies, our research has been oriented towards the understanding of how the usage of a building influences the preservation of its integrated heritage. Starting from São Sebastião's Chapel's patrimonial and functional reality, that since 2010 has been used as a place of worship by the Orthodox Church, we intend to analyse how the use influences the heritage's preservation, paying special attention to the altarpieces.

## 2 THE IMPORTANCE OF HERITAGE IMMATERIAL VALUE

A religious building's patrimonial significance is composed by the immateriality of the worship practice and by the objects that assist and pertain to it. In this view, the functional and worship experiences of a religious place are also part of its patrimonial whole, since they justify and give character to their existence. However, just as the connection between the building and its objects can vanish, the same can happen to the bond between the material heritage and its immaterial context. This may happen due to either a disruption in the use of an object, that maintains its material integrity but loses its purpose or as a consequence of the disappearing of an object that materializes a given aspect of the practice, be it ritual or utilitarian.

In the case of religious heritage, strongly linked to a ceremonial background that justifies the objects' existence and gives them a specific use, the connection between the materiality and the immateriality is essential to understand and recognize its patrimonial value [Aires de Barros, 2003]. Objects' valuing is influenced by the cultural, social and economic changes, having a direct influence in heritage classification criteria. The concept of heritage has been gradually more encompassing, now promoting the preservation of the existing link between buildings, their integrated objects and their surrounding context. This perspective allows a different approach that stems from the recognition of the tangible-intangible duality that characterizes cultural heritage as a support of a community identity memory [Diário da República nº153, 1985].

These matters have a whole different meaning when we reflect on the historic buildings' functional and patrimonial context. If we assume that the patrimonial integrity of a temple is composed not only by the existing objects in its interior but also by those that, although originally created for that space, have been displaced or have disappeared altogether [Nascimento, 2016], we must acknowledge the importance of the immaterial context for the full understanding of the patrimonial whole. As such, the integrated heritage of a building goes beyond its materiality, and it includes as well the traditions and religious practices that compose its history [Nascimento, 2016].

### 2.1 A RELIGIOUS BUILDING PATRIMONIAL WHOLE

Modifications are part of a building's history, and the patrimonial reality of our days is the result of many and different interventions. Through the historic source, it is possible to identify the historic events that promoted the building's intervention, and to compare its description along the time in order to recognize the occurred changes.

Being heritage itself in constant transformation, the intervention criteria were influenced by the specific reality of each time, and the preservation has not always been a concern. In the late 19th century, Ernest Renan wonders about the consequences of intervening in heritage, and how the *zeitgeist* of each period influences the chosen methodologies, referring that «being taste ever-changing, who can aspire to fix it? Now we destroy the 17th century, calling it insipid and without character; who can tell the tendency of the future, and if the 19th century will not be called a vandal? » [Pereira, 1909].

The 20th century saw a change in classification and intervention criteria, because of the immaterial context and landscape framing importance for the valuing of historic buildings. During the first decades of the 21st century new management and intervention guidelines were defined, based on the interdisciplinary character and

social utility of heritage [Martins 2011]. Regarding this new approach, and in our point of view, the study of the religious building functional past is as important as the characterization of its historic and artistic evolution, because the use justifies the connection between the building and its integrated heritage [Nascimento, 2016].

### 3 SÃO SEBASTIÃO'S CHAPEL

São Sebastião's primitive chapel was constructed in the late 15th century by the Évora Council in the same place as it is now, according to the illustration in the Évora Chart of 1501. Destroyed in 1663, during the Restoration War, the reconstruction works undertaken between 1696 and 1713 maintained the architectural character but changed considerably the interior of this temple [Espanca 1966].

Due to the destruction and further dispersion of the religious and artistic objects, the actual main altarpiece is the result of the adaptation of two side altarpieces donated by Évora's Mesa da Misericórdia in 1713 [Silva, 1691-1724]. The objects that remain from the 17th century and others that are the result of the 18th century decorative campaign can be identified and localized through the surveys' documentation and the building's historic descriptions. Comparing different data, it is possible to identify objects and the events that influenced their disappearance or replacement in other locations.

#### 3.1 THE ALTARPIECES

Before 1663 and according to the inventory made in 1651 by the Évora Council, São Sebastião's Chapel had an interior composed by the main chapel, two collateral altars consecrated to St. Catarina and to St. Ana and São Neutel chapel. Also according to this document, there were three gilded woodcraft altarpieces with paintings and sculptures, and a mural painting altar devoted to St. Catarina. The main altarpiece, was made in gilded woodcraft, with the image of São Sebastião in the central niche, two panels with the themes of «Christ carrying the Cross», «Descent from the Cross», «Christ on the Cross», and at the top «The Eternal Father» along with other paintings. São Neutel's altarpiece was gilded and painted, having a sculpture of the saint and two paintings, and the St. Ana's altarpiece was also gilded and painted, and had a sculpture of the «the Virgin and Child with St. Anne» [Tombo das jurisdições, foros & próprios, 1651-1810].

Belonging to the original heritage set, an inventory made in 1911 identifies a mitre and a black silk habit from the São Neutel sculpture and two silk mantles from the St. Ana sculpture, that were deposited in the vestry of the Nossa Senhora dos Remédios chapel in Évora [Bens culturais móveis – Inventário, 1911-1914]. Regarding that this document stated that the sculptures no longer existed at that time, only the sculpture of São Sebastião survived, having been placed in the São Brás chapel until the conclusion of the reconstruction of the São Sebastião's chapel in 1713 [Espanca 1966].

The main altarpiece, as it was described in 1911, was «composed of different wood painted altarpieces, portraying several saints» [Bens culturais móveis – Inventário, 1911-1914], as this description concerns solely to the paintings and not to the whole altarpiece, as we refer to nowadays. The modern structure in gilded woodcraft is the result of the adaptation of two side altarpieces, framing six paintings representing: «Saint John Baptist and the Pharisees», «Saint Benedict and Saint Martial», «The Baptism of Christ», «Saint Michael», «Christ in Glory», «Calvary» and a triangular

painting with floral themes (Fig. 1). In recent years, the altar was adapted to the Orthodox rite, with the addition of two icons portraying «Calvary» and «Christ».



**Figure 1: Main altarpiece of São Sebastião’s chapel, c.1966 [Espanca, 1966]**

Making a comparison between the 1651 description and the actual iconography of the paintings reorganized in 1713, it is possible that the modern altarpiece is the result of the reorganization of paintings and gilded woodcraft from three different temples in Évora. Túlio Espanca states that the paintings «Saint Michael» and «Saint Benedict and Saint Martial» may have come from the São Brás chapel [Espanca, 1966]. We suggest that the «Christ in the Cross» and «Eternal Father» paintings were originally from São Sebastião’s chapel primitive main altarpiece and the woodcraft structure were originally placed in the Misericórdia church.

This is an example of reutilization and adaptation of religious art, with the reorganization of pieces from different buildings in one artistic object, as a solution for a worship need. We hope that the ongoing research may bring to light new information about the altarpiece assembly in the 18th century, contributing to the knowledge about the functional past of this patrimonial whole.

### **3.2 USAGE AS A WAY OF SAFEGUARDING HERITAGE**

According to the historic description of the religious life in Évora and regarding the artistic richness of São Sebastião’s chapel before 1663, after its reconstruction, the worship practice was resumed with religious celebrations and other festivities taking place in the surrounding areas (Fig.2).



**Figure 2: Cattle fair at the Rossio de São Sebastião, 1900-1901. © José António Barbosa**

During the 20th century the chapel gradually loses its religious relevance. In the past decades the Évora Municipality, owner of the building since its foundation, used the building for different purposes. Since 2010 the building has been used by the orthodox community for religious purposes (Fig.3).



**Figure 3: São Sebastião's chapel, 2016. © Glória Nascimento**

Renamed as «Church of the Saint Apostles Peter and Paul» the building was adjusted to the new worship needs, with the placement of an iconostasis, separating the public area from the main chapel, with has restricted access (Fig.4). Apart from the alterations made in the interior of the chapel, that adapt the original space from the roman rite to the orthodox worship needs, the community has manifested a clear concern with the conservation of the building's structure, and a willingness to include the artistic heritage in the current iconographic discourse.





**Figure 4: São Sebastião's chapel interior, 2016. © Glória Nascimento.**

São Sebastião's chapel is classified as Building with Patrimonial Value 1, and its use is subject to the Municipality Director Plan, that safeguards the preservation of the building's identity and image [Évora Municipality, 2007]. However, this law is not clear about the building's interior and its integrated heritage. The attribution of functions useful for society to historic buildings makes it necessary that this adaptation has in consideration the contemporary life needs [Diário da República nº 19, 1991]. During this process, the original organization and decoration should be respected [Venice Charter, 1964] because it is part of the building's identity.

In Portugal, several other buildings, including churches, have been transformed by the Portuguese orthodox community to their worship needs. Regarding the international heritage framework, this is a way of ensuring the social utility of historic buildings, keeping its new purpose as close as possible to the original [Brussel Charter, 2009]. Giving new functions to old chapels, that have lost their original religious utility, is also a way to ensure their conservation through the development of safeguard strategies. Although usage is a way of ensuring the continuity of cultural heritage [Rusillo et al, 2016], its material preservation depends on the existence of preventive conservation strategies that guarantee a responsible usage of the patrimonial resources [European Charter of the Architectural Heritage, 1975].

Regarding São Sebastião's chapel worship adaptation and its poor conservation conditions, it is urgent to identify the degradation factors and to establish an integrated safeguard plan to ensure its preservation. The functional adaptation should respect the historic and artistic significance of this chapel, and promote the preservation of the artistic objects. During this process, the local community should also be included, as a way to reinforce a sense of property and responsibility for the heritage preservation [Namur Declaration, 2015], working together with the Évora Council and the Portuguese Orthodox Church, the two institutions directly involved in the management of this temple.

## 4 CONCLUSION

A religious building patrimonial whole is composed by the cultural and ritual manifestations that, together, represent the essence of its identity. In our point of view, a temple's patrimonial value depends on the recognition of the bond between the heritage's tangibility and intangibility which characterize and justify its existence.

The constant modification and transformation of the worship space is the result of its continuous usage, adapting the temple to the new religious needs, as well as to the taste of the time. In this way, the integrated heritage is the materialization of the social, cultural and artistic context that, in each historical period, has influenced the building's functioning. In our days, the dynamic character of heritage has been recognized as a characteristic that should be taken into account during the implementation of safeguard strategies and conservation interventions.

São Sebastião's chapel in Évora is a relevant case of study in the context of religious buildings in Portugal. Today, this temple is the result not only of the religious usage of two different catholic cults, that left their mark in the building through integrated heritage, but also of the adaptation of artistic objects that came from three different buildings in Évora, related to each other through the main altarpiece.

After a period in which the temple was not being used for a religious purpose, the worship adaptation of São Sebastião's chapel to the orthodox cult has promoted the building's maintenance and the awareness for the poor conservation conditions of the main altarpiece. Regarding the orthodox community concerns about the preservation of the artistic objects, the frequent usage of this historic building may contribute to a renewal of its significance and to the development of safeguard strategies.

We hope that our research contributes for a more inclusive intervention criteria based on the relevance of the artistic and functional reality of this religious building.

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Fig. 1: ESPANCA, Túlio, 1966 – **Inventário Artístico de Portugal, Concelho de Évora**. vol. II, nº VII, Academia de Belas-Artes, Lisbon, DLIII.

Fig. 2: BARBOSA, José António, 1900-1901 – **Feira do gado no Rossio de São Sebastião**. Évora Municipality Photographic Archives, Évora, GPE454.

# THE ASSIGNMENT OF HERITAGE VALUE TO THE OSTEOLOGICAL TEACHING COLLECTION OF THE UNIVERSITY OF LISBON'S FACULTY OF FINE ARTS

**Diana Moreira Dinis<sup>1</sup>, Isabel Ritto<sup>2</sup>, Alice Nogueira Alves<sup>3</sup>**

<sup>1</sup> Faculdade de Belas-Artes da Universidade de Lisboa, Largo da Academia Nacional de Belas Artes, 1249-058 Lisboa, Portugal, e-mail: diana.m.dinis@gmail.com

<sup>2</sup> CIEBA / Faculdade de Belas-Artes da Universidade de Lisboa, Largo da Academia Nacional de Belas Artes, 1249-058 Lisboa, Portugal, e-mail: i.ritto@belasartes.ulisboa.pt

<sup>3</sup> CIEBA / Faculdade de Belas-Artes da Universidade de Lisboa, Largo da Academia Nacional de Belas Artes, 1249-058 Lisboa, Portugal, e-mail: alicenaves@gmail.com

## **ABSTRACT**

Osteological materials have been used as teaching tools in the art academies and schools since the Italian Renaissance. This paper focuses on the Faculty of Fine Arts of the University of Lisbon (FBAUL) osteological collection, which includes almost two hundred bone elements: human and non-human, articulated and disarticulated, whole or in fragments.

However, this material was found disconnected from its intangible aspects and values, with no documentation related and exposed to unfavourable conditions to its preservation. In order to assign its inherent values, an inventory has been made as well as the development of a set of preservation practices and procedures most suitable for a collection of this kind.

Keywords: Art Education / Osteological Material / Tangible heritage / Inventory / Preservation

## **1 INTRODUCTION**

This paper concerns the osteological teaching collection present at the Faculty of Fine Arts of the University of Lisbon (FBAUL), which was recently the object of a Museology and Museography master's dissertation.

In that context, our aim here is to show the patrimonial value and intangible aspects assigned to this tangible scientific heritage, as well as how they have been assigned. For that propose, we will briefly outline the presence and the use of osteological materials as didactic resources to art teaching institutions from the Italian Renaissance to the present-day. After showing this historical framework, which aims to corroborate the bones' value as cultural heritage, we will explain our work in the search for the intangible values of that tangible material, which was developed through practices and procedures that are expected from a museum: the specimens' documentation and preservation.

## 2 HISTORICAL FRAMEWORK

### 2.1 THE FIRST EUROPEAN ACADEMIES

The first known Italian Renaissance's art academy, *Accademia del Disegno*, founded by Giorgio Vasari in 1563, had apparently as an intention, expressed in its statutes, to establish a library with several didactic materials to be used by the students, such as drawings, models, and plans (Goldstein 1996), but no mention is made of skeletons or bones. Despite this fact, the discipline of anatomy belonged to the academy's curriculum (Goldstein 1996, Kemp 2000).

Representations of the early versions of the academies founded in the Italian Renaissance, such as the engraving *The Academy of Baccio Bandinelli*<sup>1</sup> from the sixteenth century, depict osteological elements alongside sculpture models and books. Another engraving from the seventeenth century by Pier Francesco Alberti, entitled *Accademia d'Pitori*<sup>2</sup> represents a skeleton being drawn by a student.

We are aware that, as Carl Goldstein points out, these engravings must be interpreted «as visualizations of the statements in theoretical treatises, pictures of an ideal, and not records of actual practices» (Goldstein 1988). We cannot unquestionably affirm that in the first academies of art the transmission of anatomical knowledge using osteological materials was a frequent practice. However, it is possible to conclude that, according to the Italian Renaissance thought, the skeletons and bones as didactic materials were certainly part of the ideal model of an art academy.

In this ideal academy, which developed during the Italian Renaissance, there is a very specific aesthetic and artistic aim: the representation of the nude (Lisboa 2007), an aspect that distinguishes it from other art teaching institutions (Goldstein 1996). To represent the human figure artists needed to acquire anatomical knowledge, first studying the bones and then the muscles (Bernardo 2013).

Undoubtedly, this kind of art teaching model was based on the theoretical framework of the Italian Renaissance. One of the first theoreticians of this time was Leon Battista Alberti, considered responsible for shaping the academies of art (Lisboa 2007). In his work *Della Pittura*, the author highlights the importance of depicting the nude through osteological and myological structures (Alberti 2004).

That the great artists of this time practiced, but also highly advocated, the study of osteological structures is made clear by Leonardo Da Vinci's drawings on human sectioned skulls<sup>3</sup> and it seems that in the sixteenth century the anatomy studies were more often centered around the human skeleton than on the muscles (Goldstein 1988).

We cannot be certain that there were skeletons and bones available and used by students in these first academies. Yet, it is possible to state that the presence and the use of osteological material as a didactic resource is not only related to the ideal teaching model by an art academy in the Italian Renaissance but also a reflection of both a theoretical and artistic practice framework which influenced the development and establishment of the above-mentioned model of art education.

### 2.1 EXPANSION

The referred art education system created in Italy expanded into the European territory during the 17<sup>th</sup> and 18<sup>th</sup> century (Lisboa 2007). Apparently, pedagogical resources such as skeletons and bones were also present and used in the subsequent academies

founded outside of Italy.

Portraits of these academies such as the one of the Royal Academy of Art of London, from the 18<sup>th</sup> century<sup>4</sup>, – where the anatomy teacher William Hunter is represented – or one of the Parisian École des Beaux-Arts<sup>5</sup> from the following century, may suggest that the bones and the articulated skeletons depicted in the context of its lectures were also ideal pedagogical materials within the same institutional framework in countries such as England and France.

In fact, during this period, we can observe that the transmission of anatomical knowledge to artists was still pursued, due to the creation of didactic materials for that purpose. Consider, as an example, the anatomical drawings and engravings after classical sculpture attitudes, with both bones and muscles represented, along with their anatomical nomenclature, by Jean-Galbert Salvage, published in 1812. These works are part of the book entitled *Anatomie du gladiateur combattant, applicable aux beaux arts, ou Traité des os, des muscles, du mécanisme des mouvemens, des proportions et des caractères du corps humain*, which has an indisputable didactical content considering the essays this work includes (Lifchez 2009).

Notwithstanding, and in what concerns the osteological materials as didactic resources at this time, it is known that John Flaxman (1755-1826), a sculpture teacher at the Academy of London, who created anatomical drawings with didactical purposes (Kemp 2000), including osteological structures (Flaxman's drawings were engraved by Henry Landseer and were integrated in the work entitled *Anatomical studies of the bones and muscles, for the use of artists, from drawings by the late John Flaxman...*<sup>6</sup>) and contributed significantly to the improvement and establishment of study facilities for the students of the Royal Academy (Liscombe 1987). Thereby, in 1809, Flaxman «donated to the 'Living Model Academy' a skeleton, an anatomical cast from nature and three painted anatomical tables illustrating the first course of muscles» (Liscombe 1987).

Finally, and although the study of anatomy appeared to be no longer an interest to the artists since the mid-nineteenth century (Kemp 2000), it seems that the transmission of anatomical knowledge was preserved by the European institutions that followed until the 20<sup>th</sup> century. As an example, we must consider the Parisian case that, as it shall be emphasized later, has influenced the art education in Lisbon. In the current École Nationale Supérieure des Beaux-Arts of Paris there is a morphology collection, which has been growing since mid-eighteenth century that contains skeletons, but also photographs, evidencing the use of skeletal material as didactical resource in the twentieth century<sup>7</sup>. One of them is a photograph of 1905 where we can observe an articulated skeleton in the *Laboratoire d'anatomie* of the former Parisian institution, the École des Beaux-Arts (See Paul Richer's *Modèle masculin nu, barbu, bras tendu, posant à côté d'un squelette*, 1905<sup>8</sup>). Another one, created in 1982, shows the École's teacher, François Fontaine, using these articulated osteological materials while the courses are taking place (Isabelle Bauret's *Cours de François Fontaine*, 1982<sup>9</sup>).

## 2.2 LISBON: BEFORE THE FIRST ART ACADEMY

In early Portuguese theoretical framework, one can detect the relevance given to the acquisition of anatomical knowledge. In the sixteenth century, Francisco de Holanda (1575-1585), influenced by the Italian Renaissance (Mendonça 2014), remarked that for artists to conveniently represent the nude they should first learn how to draw the bones and flesh and, only after that, the clothing and ornaments (Faria 2012). Joaquim Machado de Castro (1731-1822), sculptor and theoretician, includes in his work

*Dicionário de Escultura* (Sculpture Dictionary), the definition of «*Anatomia externa*» (surface anatomy), in which he affirms that anatomical knowledge must be the basis of artistic learning (Castro 1937).

Therefore, what the theoreticians advocated was reflected in the several attempts to establish a structured model of art education, according to the tradition and ideology developed in the Italian Renaissance. Since we cannot expand on every attempt, we selected three that we believe may be of more interest to this subject: the Sculpture Course (*Aula de escultura*), the Nude Academy (*Academia do Nu*), and the Athenaeum (*Atheneo*) of Lisbon.

The first case, the Sculpture Course of Lisbon, was created by Machado de Castro and its courses started on January 1775 (Faria 2008). It is known that Machado de Castro, the same person who recommended anatomy studies for art students, has contributed with anatomical casts to this course among plaster models from Rome, clay models, drawings, books and prints (Faria 2008). It is not yet possible to ascertain whether skeletons or bones ever existed among these didactic materials.

In the second case, it was Cyrillo Volkmar Machado who, in 1780, established the Nude Academy, an institution that functioned only until the following year, and failed again to sustain its activity after reopening in 1785 (Lisboa 2007). Influenced by the Italian culture due to Cyrillo's stay and studies in Rome, he conceived this academy based on what he had learned in the city (Bernardo 2013). His intention was, undoubtedly, to implement the practice of academic ideology and tradition: the representation of the nude (Lisboa 2007). Although this academy's existence was ephemeral, it is known that the anatomical structures were here studied. Luísa Arruda shows drawings by Cyrillo, containing osteological and myological structures accompanied by notes with anatomical content, probably intended to be used in supporting theory demonstrations (Arruda 1999, Arruda 2016). Despite the importance attached to the study of anatomy by this academy, it is not evident that bones were present or used while the institution functioned.

The last case, the Athenaeum of Lisbon, founded by the renowned Portuguese painter Domingos António Sequeira (Faria 2008) was considered by Maria Helena Lisboa as an art education model that showed great similarities with the one adopted by the institution posteriorly founded, the Fine Arts Academy of Lisbon (Lisboa 2007). In contrast to what we know of the former cases, The Athenaeum, created on April 1823, included in its curriculum the study of the natural (life models) with the use of men, women, old and young models, as well as «*um esqueleto e uma anatomia em detalhes*» (a skeleton and anatomy in detail) in the first class, and, in other two classes, three-dimensional and two-dimensional materials, the latter with anatomical content (Lisboa 2007, Faria 2008).

### 2.3 LISBON: FROM THE FIRST ART ACADEMY TO FINE ARTS COLLEGE

The model of art education which developed in Italy and spread to other European countries has also been implemented in Portugal. However, this only occurred two centuries after the foundation of the other academies (Lisboa 2007).

The first art academies in Portugal were founded in 1836, one in Lisbon and the other one in Porto (Lisboa 2007). According to Maria Helena Lisboa, it was the *École des Beaux-Arts* of Paris that mostly influenced Portuguese art academies, and so have other two institutions: the 16<sup>th</sup> century's *Accademia di San Luca* in Rome and the *Académie de Peinture et de Sculpture* of Paris, founded in the 19<sup>th</sup> century (Lisboa

2007). The influence of these academies is reflected on the Academy of Lisbon's essential aim: the drawing of the human figure (Lisboa 2007). The process of learning implemented in this institution consisted in the study of drawings and prints, followed by three-dimensional models and, finally, the living model (Lisboa 2007).

At the Fine Arts Academy of Lisbon (ABAL), the concern for the transmission of anatomical knowledge through teaching was evident from the beginning. In its statutory documents, it was mentioned that, in the Drawing Class, the teacher should address «*noções de anatomia aplicada ao Desenho*» (notions of anatomy applied to drawing) (Faria 2012). However, the implementation of this discipline as an autonomous class, organized and taught by specialized teachers, was late in comparison to French institutions, coming twenty-nine years after the academy's foundation date, in 1865 (Lisboa 2007, Faria 2012).

As one could predict, bones and skeletons were present and used in this institution. It is known that, by the time of its foundation, the academy of Lisbon received the didactic materials of previous classes (Lisboa 2007, Faria 2012). In fact, there was a proposal, and its formalization, for the purchase of a work on anatomy, by Jules Cloquet, and for the delivery of the plasters and other didactic materials which belonged to the Athenaeum of Lisbon to the academy (Faria 2018). This may suggest that the academy would have received any possible osteological material that, as we have seen by its curriculum, may very likely have existed in the Athenaeum.

There was also a document with the academy's foundation date containing the inventory of the plaster models from the Sculpture Course already mentioned, which then belonged to the academy (Faria 2008). In this list of models, among figures and human body fragments, are two skulls and one skeleton.

Furthermore, the anatomical drawings incorporated in the Antique Drawing Collection of the Faculty of Fine Arts of Lisbon, dated between 1857 and 1865, relating to the annual and triennial competition for the progression of its pupils' studies (Faria 2008), may not be sufficient evidence to assert the presence and use of human skeletal material at the time. However, such drawings are enough proof of the constant study of the osteological structures in that period.

Yet, one year after the creation of the anatomy class as an independent discipline, two skeletons were requested by Francisco Assis Rodrigues (who himself elaborated a treatise on anatomy and human proportions for the use by the students) from the Medical-Surgical School of Lisbon (*Escola Médico-Cirúrgica*) (Lisboa 2007, Faria 2008). This is the school where the anatomy teachers of the Fine Arts Academy of Lisbon once studied and taught (Lisboa 2007, Faria 2013). Maria Helena Lisboa affirms that another skeleton was requested in 1866 from the same institution (Lisboa 2007).

Recently, we came across a document worthy of mention. We are referring to a record concerning a contest of the History Drawing subject in 1867 where students were asked to describe osteological elements, such as the skull, hand and foot bones, or the thorax. To facilitate the study, according to this document, «*o esqueleto humano existente na academia, e uma estatua anatomica*» (the skeleton existing in the academy, and an anatomical statue) were provided in the «live model room» at the students' disposal<sup>10</sup>. A second record informs that the same materials were available while this same contest took place<sup>11</sup>.

After the institutional reform of 1881 (Lisboa 2007) – which separated the Academy from the Fine Arts School of Lisbon (Calado 2000) –, anatomical teaching and learning



were still a constant practice. A series of drawings made for the Artistic Anatomy discipline were collected by Henrique de Vilhena since 1905 to 1938, while he was responsible for the referred subject's teaching (Alves 2011). Among them are osteological drawings by the renowned artist Maria Helena Vieira da Silva (1908-1992) (Alves 2011).

In the 21<sup>st</sup> century, the Faculty of Fine Arts of the University of Lisbon (FBAUL) maintains anatomy as an independent subject, but also as complementary knowledge to other disciplines. This institution includes the transmission of anatomical knowledge in its curriculum, but substantially in the following subjects: Anatomy/ Anthropometry, Artistic Anatomy, Anatomy Drawing and Drawing. This curriculum certainly reflects the teaching model in which its former institutions were based on.

Naturally, in these classes, didactic materials such as bones and skeletons are inherited. This is the osteological material that represents our study subject here. It is used as a pedagogical resource in the mentioned subjects, and it seems to be a resort to Anatomy/ Anthropometry, Artistic Anatomy, and Anatomy Drawing lessons. Therefore, anatomical knowledge and, more specifically, the study of osteological structures, is still associated with the art education institution of present-day. The regular and current exhibitions of the anatomy studies executed in the mentioned Faculty, corroborate this affirmation. Among the exhibitions held recently are *Anatomia Artística: a memória do corpo* (Artistic Anatomy: the memory of the body)<sup>12</sup>, in 2014, and *Desenho e Anatomia* (Drawing and Anatomy)<sup>13</sup>, in 2015, coordinated by the current Anatomy Professor of FBAUL, Professor Isabel Ritto, which included drawings elaborated since 2010 and contained osteological structures.

However, plastic models of skeletons and of other human structures appeared, or, as the new technologies permitted, the virtual three-dimensional osteological and myological structures which are now available through software. Such computerized tools were recently developed for the students use by a teacher of the Faculty, Henrique Costa, in 2014, being the object of his PhD thesis, entitled *Projecto Original de Modelo Tridimensional Para Anatomia Artística: Constituição Osteológica e Miológica do Corpo Humano* (Original Project of a Three-dimensional Model for Artistic Anatomy: Osteological and Myological Constitution of the Human Body) (Costa 2014).

Since these didactic resources have more durability, resistance and a lower price than the natural skeletal material, the latter is currently much less used. However, the natural material prevails as a resource. In the present-day, we count one hundred and ninety-nine individual bone elements: human and non-human. Among these are articulated and disarticulated skeletons, single bones and bone fragments.

### 3 DOCUMENTATION AND PRESERVATION

As demonstrated, the bones and skeletons used in the courses of the Faculty reflect the art education practices and methods which developed during the Renaissance in Italy, expanded throughout Europe, were implemented in Lisbon in the 19<sup>th</sup> century, and have persisted until the present-day. What seems to be just a set of didactic objects is, in fact, a collection of patrimonial value, given these historical, cultural, institutional and scientific aspects inherent to it.

In addition, and to strengthen these statements, this osteological collection seems to fit the following definition of Scientific Heritage:

[Scientific Heritage] is the shared collective legacy of the scientific community, in other words what the scientific community as a whole perceives as representing its identity, worth being passed on to the next generation of scientists and to the general public as well. It includes what we know about life, nature, and the universe, but also how we know it. Its media are both material and immaterial. It encompasses artefacts and specimens, but also laboratories, observatories, landscapes, gardens, collections, *savoir faire*s, research and teaching practices and ethics, documents, and books. (Lourenço et al. 2013).

The osteological materials allocated to teaching in this institution are shared by every class. In fact, these scientific specimens, which represent what and how we know the human body, simultaneously reflect our teaching practices, even if they are art-related.

However, no documentation or inventory, as well as provenance and acquisition information, was apparently associated with these objects, nor this set of bones and skeletons was complete. Which is to say, the bones destined to art education at the Faculty were found disconnected of its patrimonial value.

This phenomenon seems to have been caused by the agent of deterioration of objects and/or collections identified by R. Robert Waller and Paisley S. Cato (Government of Canada), named dissociation (2016). This agent's action, as the authors write, «results in loss of objects, or object-related data, or the ability to retrieve or associate objects and data». This means that it may affect not only the physical integrity of the objects but also its values and intellectual or intangible aspects. Indeed, it is this «metaphysical» aspect, the expression used by the cited authors, which appears to be lacking in this scientific collection destined to art education.

To circumvent the loss of the patrimonial value of bones, and of their tangible and intangible aspects, we've implemented a set of museum practices and procedures: inventory and preservation actions. This work was the subject of our masters' thesis entitled *A coleção osteológica da Faculdade de Belas-Artes: inventariação e preservação da coleção dedicada ao ensino* (The osteological collection of the Fine Arts College: inventory and preservation of the collection destined to teaching) (Dinis 2016). It was also developed under the FBAUL's Project named CAREFUL – Implementação de um Plano de Conservação Preventiva nos acervos da Faculdade de Belas-Artes da Universidade de Lisboa (Implementation of a Preventive Conservation Plan in the collections of the Faculty of Fine Arts of the University of Lisbon), created in 2013 by teachers of the same institution: Alice Nogueira Alves, Luísa Arruda and Marta Frade (Alves et al. 2014).

The inventory consisted essentially of three different phases: the elaboration of the inventory number and its attribution to the collection elements, followed by the construction of the inventory form and, finally, the completion of each inventory form. Such process took into consideration the methods and practices used in three relevant Lisbon institutions – the Museum of Natural History and Science (MUHNAC), the National Archaeology Museum (MNA), and the Archaeosciences Laboratory, the research unit within the DGPC (the Portuguese government organization responsible for archaeology and listed monuments) –, but also the procedures applied to other collections of our institution, and the bibliographic references published by competent entities. These were reflected in their relevance and therefore adapted to this collection. This osteological collection's one hundred and ninety-nine isolated elements are now integrated into fifty-nine inventory forms.

The preservation practices included improvements in storage conditions such as adequate materials, more space to avoid stacking and organization by inventory numbers. The preservation actions were also developed through the study and

reflection of the practices and procedures observed in the above-mentioned institutions, as well as of the ones recommended in the bibliographic references regarding the preservation of osteological material, being applied as appropriate to our collection.

Currently, we are proceeding with actions proposed in the aforementioned master's dissertation, financed by a FTC investigation grant with the duration of three months, which also concerns the preservation of FBAUL's skeletons and bones. Among these, we must mention the specimens' labelling and marking with an inventory number and the subsequent implementation of the registration and control of use, displacement, and requisition of osteological material, through documentary processes we have also developed. These types of procedures are suggested for the prevention of the above-mentioned agent of deterioration, dissociation, which affected the osteological collection destined to teaching in FBAUL.

## 4 CONCLUSIONS

Our study and research on the value of Faculty of Fine Arts of the University of Lisbon specimens, as well as the assignment of this value to this scientific heritage, is a contribution to the history of art education's aims and practices, but also of the dissemination of anatomy teaching within the scope of art theory and practice, both in the Lisbon context and in the Western art education panorama.

Although there are limitations in the process of perceiving the heritage values from a collection such as this, that is to say, from a collection with no associated information, we believe that this work demonstrates that it is necessary and urgent to study didactic materials, as they reveal important collective values, and as such, their tangible and intangible aspects must be protected through its legal, institutional, historical, cultural or scientific framework, as well as by means of their documentation and preservation.

We hope that our work will motivate further research on the osteological collection or other existing collections in the Faculty, and encourage the scientific community to regard teaching collections from other institutional, geographical or cultural contexts as valuable study subjects.

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# THE INTEGRATION OF AZULEJOS IN THE MODERNIST ARCHITECTURE OF PORTUGAL AS A UNIQUE CASE IN EUROPE

**Catarina F.M. Gerales<sup>1</sup>, Alexandre N. Pais<sup>2</sup>, João Manuel Mimoso<sup>3</sup>**

<sup>1</sup> Laboratório Nacional de Engenharia Civil (LNEC), Av. do Brasil 101, 1700-066 Lisboa, Portugal; Departamento de Conservação e Restauro, e Unidade de Investigação VICARTE – Vidro e Cerâmica para as Artes, Faculdade de Ciências e Tecnologia, Universidade NOVA de Lisboa, Campus de Caparica, 2829-516 Caparica, Portugal, cgeraldes@lnec.pt

<sup>2</sup> Museu Nacional do Azulejo, Rua da Madre de Deus, 4, 1900-312 Lisboa, Portugal

<sup>3</sup> Laboratório Nacional de Engenharia Civil (LNEC), Av. do Brasil 101, 1700-066 Lisboa, Portugal

## ABSTRACT

With the increasing international appreciation of Portuguese azulejos, spurred not only by the acknowledgement of their integration in Baroque architecture as a unique heritage, but also by the continued use of painted tiles that spans to this day, azulejos have been a subject of interest and research. The technology of manufacture, the forms of decay and the materials and techniques for restoration have been studied for pre-20th century azulejos. However, such studies did not encompass modernist azulejos, manufactured after the second world war, which must be understood and conserved now, so that they will be available for future appreciation. Understanding the relevance of modernist azulejos in Portugal as cultural heritage and the *raison d'être* of their integration, not only in Portuguese, but also in Brazilian architecture is important to discuss their preservation. The aim of this paper is to discuss and attempt to assign values to modernist azulejos in Portugal as an unique regional trend in the modern movement in Europe.

Keywords: Azulejos / Values / Modern Architecture / Portugal

## 1 INTRODUCTION

For about five centuries, azulejos have been one of the favourite materials for parietal finishing and decoration in Portugal, acquiring a uniqueness of artistic aspects [1-3]. The azulejo itself is the result of a slow technical evolution, due to successive improvement of processes that resulted in the faience azulejos that we know today [4,11]. Figure 1 summarizes the use of azulejos in Portugal over the years.

As several studies report [4-13] azulejos were introduced in Portugal from once-Islamic Andalusia in the early 16<sup>th</sup> century. Following a visit by King Manuel I to Spain, azulejos were imported in large quantities and used inside of palaces and churches as decorative elements, depicting their Islamic origin through the patterns [4,7,12]. However, the use that the Portuguese gave to azulejo was highly creative, setting them in ways that were influenced by the style of the buildings they were to enrich. As Santos Simões (1907-1972) notes, the Portuguese conceived differently the use of azulejos:

“Desde o início parece ter existido um particular espírito “monumental” no uso dos azulejos”<sup>1</sup> (J. M. Dos Santos Simões, 1956)

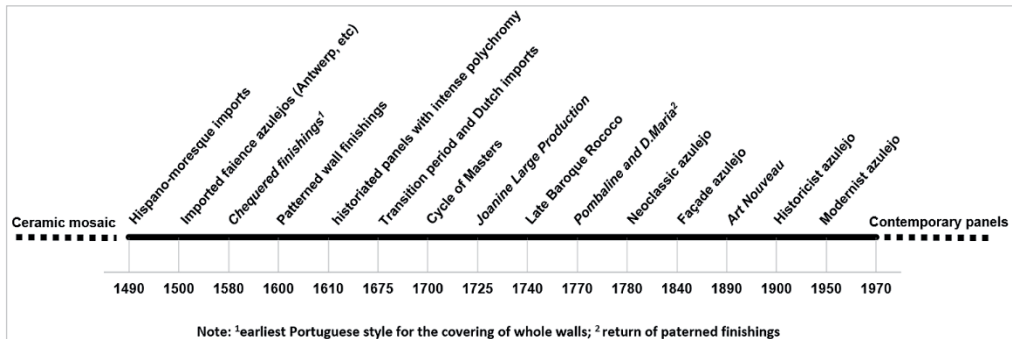


Figure 1: Azulejo applied in Portugal over the years [12]

From the early 18<sup>th</sup> century, practically only azulejos produced in Portugal were used in the country and since then they have acquired a definite and specific character [4,7,9]. One may say that azulejos became the Portuguese solution for mural decoration fulfilling the function which, for example, in countries such as Italy or France was accomplished by mural paintings or tapestries [2,4]. Also, the characteristics of azulejos allowed them to be the final “touch” to the Portuguese constructions of which they became an inextricable part and a characteristic aspect of easy recognition [2,5,11].

As stated by Santos Simões<sup>2</sup> in 1961, it was in the 17<sup>th</sup> century that the local characteristics of azulejo use were set: *the monumentality* - Portuguese had the extraordinary notion of scale of this material; *the modernity* - azulejo emerged in parallel with any other art; *the versatility of its use* and, finally, *the way it adapts to the architecture* - for its simplicity, the azulejo, when properly used, gives a classy look to an otherwise plain building. It is interesting to note that, after all this time, these characteristics may continue to be called upon to demonstrate the relevance of the azulejo as a cultural heritage. They continue valid even in the present day. The evolution of Portuguese azulejos, in contrast to the static and routinely use in other countries gives it a peculiar value as “obra de arte”<sup>3</sup>, in the words of Santos Simões [4].

The azulejo can be analysed in several aspects: the historical, the technical and the aesthetic. Azulejos are not easily parted from the architecture to which they “belong” since they would lose their integrative value and could not be properly appreciated. When considering values associated to cultural heritage, those properties that are unique to a certain region or country, are in a class of their own, for instance as pertains their interest to cultural tourism. This paper discusses the historical and

<sup>1</sup> “Since the earliest times a peculiar “monumental” view on the use of azulejos seems to be apparent” - João Miguel dos Santos Simões (1907-1972) in *Estudos de Azulejaria*. *Imprensa Nacional – Casa da Moeda*, p. 168 [4].

<sup>2</sup> João Miguel dos Santos Simões (1907-1972) in *Estudos de Azulejaria*. *Imprensa Nacional – Casa da Moeda*, p. 253 [4].

<sup>3</sup> “Work of art” - João Miguel dos Santos Simões (1907-1972) in *Estudos de Azulejaria*. *Imprensa Nacional – Casa da Moeda*, p. 219.

aesthetic uniqueness in the European context of tiled modernist architecture in Portugal. The importance to bring to light the value that the integration of azulejos has in those constructions is to provide a first insight into the potential interest for their preservation as worthy cultural heritage at this riskiest of times, when they are not new enough to be assured of maintenance, nor old enough to be assured of conservation.

## 2 AZULEJOS “TORNA-VIAGEM”

Casks of wine once sent in the hold of Portuguese ships to the far reaches of its empire sometimes returned unsold and the wine was called *torna-viagem*, a word difficult to translate accurately meaning they had gone on a return trip. The same was said of Portuguese emigrants to Brazil in the 19<sup>th</sup> century who later returned affluent to their homeland.

Portuguese azulejos have a continuous history of relevant architectural integration, which spans for five centuries, but for a lapse of time their importance was almost forgotten until they made an extraordinary return trip. Portugal transmitted the art of integrated azulejos to most regions under its administration, foremost of them, Brazil which was intended as the *New Lusitania*. During the late 17<sup>th</sup> and early 18<sup>th</sup> centuries, coinciding with an evolution phase of the azulejos in Portugal together with a regional Baroque architecture, their integrated use attained a summit. Although in Brazil the use of azulejos did rarely reach the monumentality of Portuguese examples still they are found in Bahia, Pernambuco, Maranhão, Rio, Minas Gerais, Pará and many other states. Around 1840 the urban façades of Portuguese towns started being tiled and the trend spread also to Brazil [14].

However, maybe in a process of aversion to the elements that referred to Brazilian colonial history, the Brazilian architects of the late 19<sup>th</sup> and early 20<sup>th</sup> centuries stopped using azulejos as a visible major feature of local architecture. By the late 1930s the azulejo had been relegated to forgetfulness, both in Brazil and in Portugal and Modernism did not immediately assimilate their use in either country [15,16].

At that time Brazil lived a period of modernization and debate on national identity, aimed at asserting itself as an independent nation, not only politically, but also culturally. For that, Brazilian architects discourse connected tradition with modernity and made the national and traditional materials a bridge between History and Vanguard, using the azulejo in the conception of a Brazilian identity [15,16].

Most important in early Brazilian modern architecture was the then young Lucio Costa (1902-1998). Lucio Costa spearheaded the affirmation of the new architecture in Brazil and historically he was the first of the Brazilian architects to attribute importance to the functional aspects of colonial architecture [15,17]. He reported that on his second visit to Brazil it was Le Corbusier himself, impressed by colonial and post-colonial integration of azulejos into Brazilian constructions, who suggested the use of the azulejo in façades of Brazilian modern buildings. This is all the more extraordinary, since he was also the man who had defended shortly before that "Modern decoration has no decoration" (Le Corbusier, 1925) [18].

Attentive to local materials, it seemed natural to Lucio Costa to accept Le Corbusier's suggestion and in fact he integrated the traditional Portuguese heritage – azulejo – into the iconic work of *Ministério da Educação e Saúde Pública (MESP)* in Rio de Janeiro, concluded in 1945, a work coordinated by Lúcio Costa with collaborations of other architects including Oscar Niemeyer (1907-2012) [15,19]. The integrated azulejo work,



was by the Brazilian artist Cândido Portinari (1903-1962) who conceived parietal azulejo compositions in which he incorporated marine elements in shades of blue and white, reminiscent of the Portuguese Baroque [19].

Years later, Lucio Costa in an interview confirmed that the suggestion was given by Le Corbusier [15]. He concludes that the acceptance occurred by the fact that "Os azulejos eram uma tradição"<sup>4</sup> (Silveira, 2008). Lucio Costa also explains the reason for the suggestion given by a foreigner and not a Brazilian:

"(...) quem vem de fora é sempre mais sensível e repara. Nós não estávamos pensando nisso, aquilo era tão só um revestimento que existia ali. E ele já veio com outra riqueza de abordagem"<sup>5</sup> (COSTA, 1995 op. cit. Silveira, 2008).

In this sense the azulejo created a connection between the new and the historic and its use after that, expanded to several buildings in Brazil, most famously the Church of St. Francis in Pampulha (Belo Horizonte) and, of course, the administrative buildings in Brasília.

With the introduction of a rationalist architecture in Portugal throughout the decades of 1920-30, here too the azulejo disappeared from urban spaces [1,14,19] due not only to the economic situation and political instability, following the implantation of a Republican regime and the participation in the First World War, but also to an ideological trend towards Fascist Italian architecture during the early Estado Novo period. During this period an official and nationalist style was proposed to create a modern image of the country, appropriate to the regime's policies [1, 2, 20, 21].

Notwithstanding its tradition in Portugal the azulejo was not considered a choice material to integrate the architecture of the regime, in which the classical look imparted by stone or the cheaper marmorite, associated to the monumentality and sobriety required, were favoured [1, 2].

Due to the reintroduction of the azulejo in Brazil started with the building of the *Ministério da Educação e Saúde Pública (MESP)*, Portugal was indirectly inspired and new perspectives of collaboration between architects and artists emerged. This new concept in modern architecture that integrated azulejos started being known in Portugal during the 1940s through several channels. One of them was the catalogue of the exhibition *Brazil Builds, Architecture New and Old*, from 1943 at the MOMA - Museum of Modern Art in New York, which presented reflections on the Brazilian architecture, including the azulejo work of Cândido Portinari [19].

Later, with the First National Architecture Congress (São Paulo, Brazil) in 1948 and the Third Congress of the International Union of Architects (Lisbon, Portugal) in 1953, the Portuguese architects heard of the modern use that Brazilians gave to the azulejo, by then almost unused in Portugal [1, 2, 20, 21]. In this sense, Brazilian modern architecture unknowingly assumed an important role for the young Portuguese architects [2,19]. Afterwards, artists such as Almada Negreiros, Fred Kradolfer, Maria Keil, Querubim Lapa, Júlio Pomar, Rolando Sá Nogueira, Lino António, among others, were asked to contribute to the decoration of buildings and urban spaces designed by the new generation of architects, a collaboration that was determinant in the field of modern azulejos [19, 21].

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<sup>4</sup> "Azulejos were a tradition" - COSTA, 1995 op. cit. Silveira, 2008, p. 8 [15].

<sup>5</sup> "One who comes to us from abroad notices aspects to which we are not sensible, tiles were just a finishing that was there. And he came to us with a wealth of new views" - COSTA, 1995 op. cit. Silveira 2008, p. 8 [15].

As already stated the use of the azulejo in Brazilian architecture had its origins in Portugal, in the colonial period, and it was continued in the 19<sup>th</sup> century with azulejos imported by the then independent Brazil. Through (of all theorists!) Le Corbusier, azulejos recovered their importance in Brazilian architecture, now as a mark of modernity that incorporates its roots.

In a certain sense, the use of azulejos was lost in Portugal but brought to light in Brazil to then travel back to Portugal in *torna-viagem* way. The architecture of this period revived the traditional use of the azulejo and from this time on this characteristic trait in Portuguese culture flourished again to this day.

### 3 VALUE OF AZULEJOS INTEGRATION IN PORTUGUESE MODERN ARCHITECTURE

The integration of Portuguese azulejos in architecture and their combination with the different arts, bring to light their unique character [2]. In 1969, architect Francisco Keil do Amaral (1910-1975) denoted the importance of azulejos as the most characteristic Portuguese expression to embellish buildings. He also mentioned that the use of azulejos in the façades of buildings contributes to a clear valorisation of civil architecture in Portugal, which was, in his view, in general poor [22]. The notion of the added value of their integration seems clear to Keil do Amaral, since he denotes that the towns owe to azulejos what they have of most representative and seductive: the mural decorations that give value to the *Palácio dos Marqueses de Fronteira*, *Igreja de Santo Amaro*, *Hospital de S. José*, *Quinta dos Azulejos*, *Palácio Galveias*, *Igreja da Madre de Deus*, or *S. Vicente de Fora*, or still, dating from more recent times, buildings façades of several Lisbon neighbourhoods [22].

Modernist architects also adopted a related solution that we have not seen elsewhere and is routinely overlooked in Portugal: the use of glazed bricks in shades of the same colour to create texture, variety and interest on façade areas that would otherwise be plain and uninteresting (figures 2 and 3). The reference for this kind of work is not known but could be related to the monumental architectures of Mesopotamia finished with colour-glazed bricks, such as the Ishtar Gate [23] reconstructed in the Pergamon Museum, in Berlin, or with the 19<sup>th</sup> century use of azulejos imitating bricks glazed in plain colours.

Francisco Keil do Amaral also relates the influence that the Portuguese architects received from Brazil to this “modern use” of azulejos:

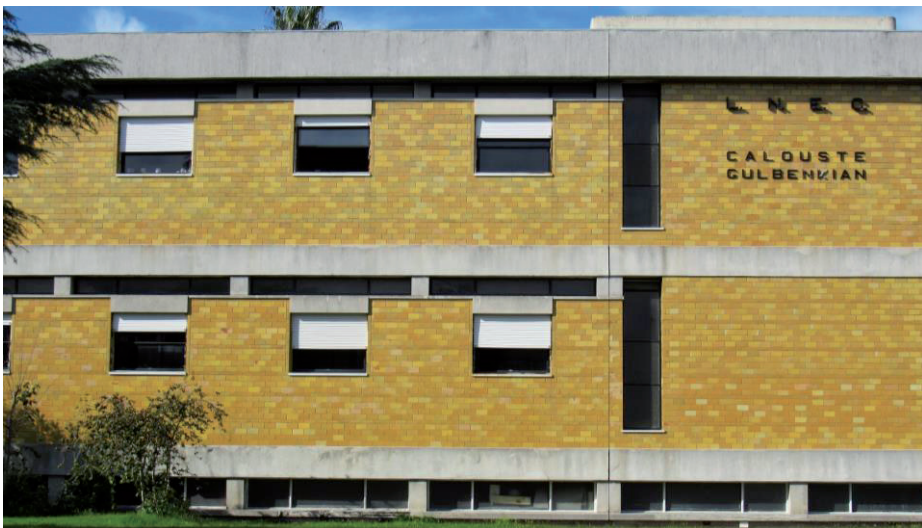
“Olhávamos os azulejos como curiosidades de um passado morto e não ocorria à imaginação dos arquitectos portugueses que pudessem prestar-se à valorização da arquitectura moderna. Essa ideia, porém, seduziu os Brasileiros, que logo a exploraram com êxito, num momento em que as suas obras chamavam as atenções do mundo (...) E nós que não as sobemos explorar, passamos a copiar os Brasileiros (...) deslumbrados com a sua modernidade (...)”<sup>6</sup> (Amaral, 1969).

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<sup>6</sup> “We looked upon azulejos as curiosities of a dead past and it never dawned on us that they might come to bring value to modern architecture. However, that idea seduced the Brazilians who soon explored it successfully at a time when their work was in the limelight. And we, who had not been able to explore the possibilities, went on to get inspiration from the Brazilians, dazzled by their modernity (...)” - Francisco Keil do Amaral 1969, in *Uma Cidade em Transformação*, p. 171 [22].



**Figure 2: Casa da Moeda 1942-48, Lisbon. Architects Jorge Segurado e António Varela**



**Figure 3: Building Calouste Gulbenkian, 1962, Laboratório Nacional de Engenharia Civil, Lisbon. Architects Januário Godinho and João Henrique de Mello Breyner Andresen**

It seems important to point out that, together with Brazil, the use of azulejo in modern architecture is something unique. And in the European context, its use in Portugal is unique indeed and singularly interesting because it emerged, not only as the inheritance of a cultural past, but also as a mark of individuality towards the standards of architecture at the time. The use of azulejos in the modernist architecture in Portugal has historic and aesthetic values. There is also a technical side which we will exclude from the present discussion until further research. The historic side was pointed above and is particularly enhanced by the fact that the international modern movement had adopted canons characterised by pure volumes, sober lines and great rationality that excluded most forms of decoration. Such rules also had an expression in Portugal [20].

The integration of azulejos not only goes counter the sobriety normal in other European countries at the time, but have the added value of following a suggestion by none other than Le Corbusier. The singularity thus enhances the historic value.

As for the aesthetical value, it is for each one to judge with the cautionary note that it has withstood the test of time and once rekindled, the integration of azulejos marks architectural works in Portugal to this day.

## 4 CONCLUSIONS

For decades, the use of azulejos became something inherent to the Portuguese architecture, giving value to each construction they integrated, which in their absence would certainly be poorer. Yet, for a time their use was almost lost, as reported Maria Keil (1914-2012):

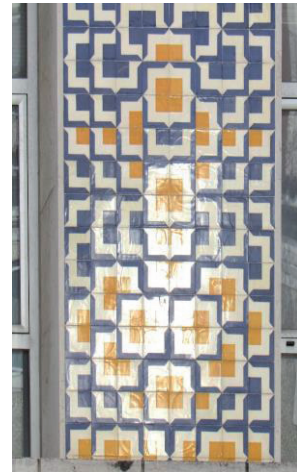
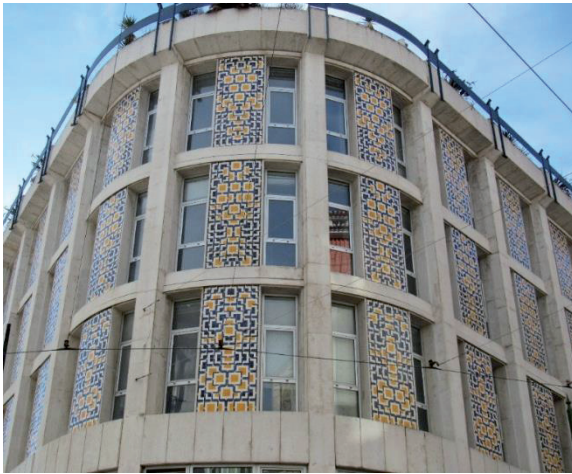
“Poucas artes aplicadas têm tradições tão portuguesas como a dos azulejos de revestimento e pouquíssimas contribuíram tanto para o que há de característico nas nossas edificações dos últimos séculos. E, no entanto, mercê de circunstâncias mal definidas, essa tradição magnífica quase se perdeu (...). Parece-me que vale a pena, a vários títulos, insuflar vida nessa tradição decadente e que aos arquitectos cabe, necessariamente, um papel importante nessa tarefa: porque se não derem guarida aos azulejos nas suas obras, nada feito. Mas a nós, pintores e decoradores, cumpre fornecer aos arquitectos azulejos adequados para os edifícios e as soluções de hoje (...).”<sup>7</sup> (Maria Keil op. cit. Mantas, 2012).

Recovered from a return trip to Brazil the integration of azulejos in the Modern architecture of Portugal is unique in Europe and became an important characteristic which marked the urban landscape when the European canons mostly denied the advantages, aesthetic or otherwise, of decoration in architecture.

Integrated azulejos, new or old, must be valued as a national mark often neglected possibly because Portuguese “eyes” are so very used to it. But maybe they are not used to their absence and will sense when their warm presence is finally lost. And it is important to remark that the modern constructions with integrated azulejos are indeed at risk at a time of urban expansion and increasing value of land in old parts of towns, if its preservation is not assured. A recent example is the modernist building in *Praça Raphael Bordallo Pinheiro*, Lisbon, erected in the early 1970s with 33 integrated panels of azulejos (Fig. 4). An investment company wants to transform it into a five-star hotel with Pombaline aesthetics, with demolition of the façade or at least removal of the azulejos to the interior. However, such expansion fuelled by tourism tends to forget that the use of azulejo in modernist architecture in Portugal is also a value for tourism itself, since their uniqueness in Europe as well as their interpretation by the local architects and artists can be explored through cultural routes. Little sought for at the present time, maybe, but assuredly valuable in the future. But... will those buildings prevail in our urban landscapes if not valued and preserved now?

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<sup>7</sup> “Few applied arts have a tradition as Portuguese as that of facing azulejos, and very few have contributed so much to what is characteristic of our buildings in recent centuries. And yet, due to ill-defined circumstances, this magnificent tradition was almost lost (...). It seems to be worthy, in various respects, to breathe life into this decadent tradition, and that architects necessarily play an important role in this task: because if they do not give a place to the tiles in their works, nothing can be achieved. But we, artists and designers, must provide architects with suitable tiles for today's buildings and solutions (...).” - Maria Keil op. cit. Mantas, 2012, pp. 274-75 [21].



**Figure 4: Building in Praça Raphael Bordallo Pinheiro, 1970s, Lisbon. Architects Diogo José de Mello and João Andrade e Sousa. Azulejos author António Vasconcelos Lapa**

In this sense, it is important the effort to define their value not only as a characteristic aspect of Portuguese culture, but also as an unique regional trend in the Modern Movement in Europe, that cries out for preservation now, so that they may be here to be appreciated in the future.

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# CINEMA AND HERITAGE: PLACES OF MEMORY AS INSPIRATION FOR THE SEVENTH ART IN BRAZIL

Jéssica de Fátima Rossone Alves<sup>1</sup>, Cláudia dos Reis Paiva<sup>2</sup>, Daniel de Almeida Moratori<sup>3</sup>

<sup>1</sup> Programa de Pós-Graduação em Ambiente Construído, Universidade Federal de Juiz de Fora (PROAC/UFJF) Rua José Lourenço Kelmer, s/n – Martelos, Juiz de Fora, Brasil. E-mail: jessica\_rossone@hotmail.com

<sup>2</sup> Programa de Pós-Graduação em Ambiente Construído, Universidade Federal de Juiz de Fora (PROAC/UFJF) Rua José Lourenço Kelmer, s/n – Martelos, Juiz de Fora, Brasil. E-mail: claudiareis\_paiva@hotmail.com

<sup>3</sup> Programa de Pós-Graduação em Ambiente Construído, Universidade Federal de Juiz de Fora (PROAC/UFJF) Rua José Lourenço Kelmer, s/n – Martelos, Juiz de Fora, Brasil. E-mail: danielmoratori@hotmail.com

## ABSTRACT

This research discusses the cinema importance in Brazil as a potential for cultural heritage recognition, especially intangible, and its relations with the built heritage as well as the identities represented by them through documentaries and films that portray Brazilian cities. The country has a great diversity of practices, representations, expressions, knowledge and techniques related to its protection instruments, objects and, mainly, places considered cultural heritage. This study's development consists of the approach of specific film productions from the years 2000 that show the reality of the country's diverse places, thus contributing to a common identity representation and the documentation of audiovisual records regarding the feeling of belonging and identity for Brazilian people.

Keywords: Cinema / Cultural Heritage / Brazil

## 1 INTRODUCTION

This article aims to evaluate cinema as an enhancement for cultural heritage recognition, especially the relation between tangible and intangible heritage, to represent identities and collaborate for heritage education through documents and films production based upon the reality found in Brazilian cities. In this context, fiction can be considered an opinion-maker and, although they are not directed to real facts, the inspirations were certainly authentic.

Brazil has a great diversity of cultural practices, representations, expressions, knowledge and techniques related to its protection instruments, patrimonial and cultural objects. There is a total of six items inscribed by Unesco on the List of Intangible Cultural Heritage. The *Instituto do Patrimônio Histórico e Artístico Nacional - Iphan*, had until now registered a total of 28 items as intangible cultural heritage in a national sphere. In addition, many others are recognised at the state and/or municipal level, which does not reduce the recognition of their value and meaning to local communities.

The development of this study consists of the relation approach between cinema and memory, the history of cinema in Brazil, cinematographic productions that tells the



country's history and also specific films and documentaries that portray the Brazil's big urban centers reality from the 2000's, contributing to a common identity representation and the documentation and audiovisual record of places with great significance for the Brazilian people. The preservation of cultural messages transmitted by sound and image is a challenge, as they are in constant transformation, in true cultural processes.

However, cinema can be considered an artistic media capable of perpetuating expressions and representations related to tangible and intangible heritage, aiming for its transmission to future generations. According to Walter Benjamin (2014), the true meaning and possibilities of cinema lie in "its singular faculty to express with natural means and with persuasive force the unequalled, the fairylike, marvellous, supernatural". Thus, cinema is a privileged form of artistic production, which brings updated models of learning and apprehension of meaning to the collective, and presents the public all the contradictions found in real life.

## 2 CINEMA AS AN ART

Inventions such as the telephone, the railroad, the automobile and photography are viewed by Charney and Schwartz (2004) as guides for understanding the social, economic and cultural transformations resulted from the experience of modernity. However, cinema is defended by them as an expression of more success in marking and transcending this moment. "The modernity culture made cinema inevitable since its characteristics developed from the traits that defined modern life in general. At the same time, cinema formed a crucible for ideas, representation techniques and strategies already present in other places."

Costa (2008) corroborates that at the beginning of the 20th century, cinema inaugurated an era of the predominance of images. But when it appeared, around 1895, it had no code of its own and was mixed with other forms of culture, such as popular theatre shows, cartoons, illustrated magazines and postcards. The projection devices appeared as a curiosity among the various inventions that emerged in the late nineteenth century and were displayed as a novelty in illustrated lectures and in the universal exhibitions or mixed with other forms of popular entertainment such as the circus and amusement parks.

However, the cinema history also refers to a broader relationship: one with popular practices, optical instruments and surveys with photographic images. In fact, there was not a single cinema's discoverer or inventor, just as there was not a single trajectory of perfecting the techniques. In this sense, it is understood that its meaning is transformed through time, in parallel with technological advances, social needs and convenience.

It is in this context that cinema will consequently find its place alongside architecture, sculpture, painting, music, poetry and dance, and so be entitled *the seventh art*. According to Benjamin (2014), one of the most important art tasks has always been the demand generation. The history of each art embraces critical times, in which there is an aspiration for effects that can be achieved effortlessly, only with a transformed technical pattern, in other words: in a new art form.

Benjamin (2014) also argues that among the cinema's social functions, the most important is establishing the balance between man and apparatus. For him, cinema fully fulfils this attribution, not just the way a man represents himself before the recording apparatus, but also by the way the surrounding world represents him with the

help of it. In fact, cinema expands perspective on the needs of existence. In cinema, exceptionally, there is a form whose art character is determined by its reproducibility, not corresponding to the whole. Therefore, in Benjamin's opinion, cinema can be considered the most perfectible art.

### 3 CINEMA AND HERITAGE

The actual heritage conception is in accordance with Brayner's (2007) definition, which associates the formation of Cultural Heritage with a set of knowledge, actions, expressions, practices and their products, which refer to the history, memory and community identity, that is, everything that is created, appreciated and preserved. According to Fonseca (2003), the process of re-reading the concept of heritage implies the involvement of new actors together with preservation and promotion instruments, so that policies enrich the relationship between society and its cultural assets without value losses that justify preservation.

The preservation act is associated with the ability to exchange experiences, convey ideas and recognise practices. Memory is the cornerstone of cultural heritage transmission. Halbwachs (1990) explains that it is easier to remember facts and notions that are a common domain. The social groups to which individuals are related are also constructors of individual memory, since, being together, people may have different memories of the same events, and some may alter the perceptions of others, even in conversations between friends.

In the process of reconciling collective memory, testimonies are not enough; It is necessary that the testimonies have not failed to agree with their memories and that there are enough points of contact so that the remembrance that the others bring to us can be rebuilt on a common basis. Abreu (1998) points out that through individual memory or its registers, one can turn to people's memories and reach the cities' memory, urban moments and lost spatial forms.

Halbwachs (1990) points out the inseparability of collective memory's time and space, considering that it involves individual memories but is not confused with them, since they are socially constructed and referenced memories that transcend the individual, and are always in transformation process, consolidating the society's, people's or nation's memory through the material and immaterial expressions in which groups identify or recognize themselves and each other, enables formation around the places of memory, a sense of identity and belonging.

Therefore, memory construction is linked to both social groups and places. When analysing the cities' space and each city characteristics set that draw attention of those who witness it, we can affirm that differences are identity builders. Lynch (1960) considers that a well-formed, distinct, memorable city would invite the eyes and ears to a greater attention and participation. This characteristic's collective he coined the concept *imaginability*.

We can associate cities and their material and immaterial heritage with the *smooth space* of Deleuze (1997) which is occupied by events or haecceities, much more than formed and perceived things. A space of affections, rather than properties, a haptic, rather than an optical, perception.

When confronting the field of memory with the cinema capacity as a tool of heritage education, we see a possibility for expansion not only by material characteristics

safeguard but also the documentation through the intangible conditions filming that are essential for the cities' identity.

Hereupon, Almeida (1999) argues that as an art and ideology, television participates together with cinema in creating and recreating the memory. Costa (2008) argues that early films were open forms of storytelling and that narrative was not inherent to movies but was closely related to the act of presentation and reception, without which it could not be understood in its totality.

From this perspective, cities, as well as the birthplace of *the seventh art*, are also one of their most recurring themes. The attempt to represent these places in the films characterises the *striated spaces*, also from Deleuze (1997), which are an interpretation of the *smooth space*, a way of expressing it, an account or point of view. But in urban films, according to Alencar (2012), the smooth and striated change, complete, and the images build meanings, arising as the result of mediation, loaded with everyday figures, easily recognisable, but also from figures that surprise and that become audible.

Cinema, as a social fact of collective interest, plays an essential role in documenting memories, especially those forgotten and silenced when they come to light, and according to Pollak (1989), these *forbidden* and therefore *clandestine* memories occupy the entire cultural scene, the publishing sector, the media. Abreu (1998) argues that cities' memory rescue should turn their attention towards the culture's attributed intangible dimension characteristics, and that "everything that has not left marks and that is still stored in institutions of memory". And just as there is a city for each inhabitant or visitor, from the way the one recognises and lives it, subjectivity is also transmitted to the movie screen.

In this way, Morettin (2013) verifies that the relation between cinema and heritage encompasses at least two dimensions, the first being the value of moving images as a document and the second its fundamental role in education as a communication media in the History visualisation process. In this sense, a film library allows clarification and transmission of legitimate knowledge of recorded facts.

According to Duarte (2009) in the contemporary world's richest and most developed societies, the audiovisual cultural heritages, including cinematographic ones, are considered strategic resources for construction and preservation of national and cultural identities, and it is not necessary to refuse the film's artistic condition as an expression of ideas and feelings to understand it as a cultural product, since seeing and interpreting films implies, above all, to perceive the meaning they have in the social context in which they participate.

## 4 CINEMA AND HERITAGE IN BRAZIL

In 1896, the first public film exhibition in Brazilian lands occurred in the Rio de Janeiro city. Brazil was alongside other countries at the forefront of film techniques and productions during the 20th century, but the foreign cultural invasion strongly influenced the way the national film market was produced for many decades.

According to Bernardet (2009), there was a clash between popular and cult cinema. To remedy this situation, an extra-economic factor was appealed to nationalism. In testimony, Humberto Mauro (1952) said that the national film, under all pretexts, "encountered a resistance between distributors, tied to the foreign monopoly." There

was, however, confidence in nationalism and the audience tolerance. From the second half of the twentieth century, the cinema nationalisation was discussed and in 1969 it became reality with the *Empresa Brasileira de Filmes Sociedade Anônima - Embrafilme* foundation. To movie critics, withdrawing film production from private responsibility would be essential for safeguarding the national culture at that time.

In the same decade, within the modern Brazilian cinema, the cinematographic movement known as *Cinema Novo* appears, which would even resist the censorship imposed by the Brazilian dictatorship (1964 - 1985). According to Bernardet (2009) "from the thematic point of view, in the almost totality of the *Cinema Novo* films is perceived their focus on the agrarian system critiques, the peasantry misery, the land property monopoly, the systems of oppression." The main themes were slavery, religious mysticism and violence prevalent in the Northeast region, as well as political events, the transformation of large urban centres and the country modernization.

The films *Rio 40°* (1955), *Cinco Vezes Favela* (1962), *Vidas Secas* (1963), *Deus e o diabo na terra do Sol* (1964) and *Garota de Ipanema* (1967) stand out as good representations of the places where they were filmed, besides being productions faithful to the perception and reality of the Brazilian people. "Analysed today, it is impossible to deny *Garota de Ipanema* an admirable documentary value of certain cinematic vision of behaviour, fashion, expression of the time, besides being almost an inventory of the artistic – especially the musicians, and intellectual world of the Rio de Janeiro city," says Carvalho (2008). According to Souza (1981), "the contempt for rhetoric was felt for the first time in Brazilian cinema."

In this context, a documentary by Aloysio Raulino entitled *Jardim Nova Bahia* (1971) tells the story of a young man migrating from Bahia to São Paulo. Black and illiterate, he earns his living as a car washer. The short film draws attention to the fact that in addition to giving his testimony, the interviewee himself holds the camera, bringing the viewer closer to his own vision of the world and the city. In addition, the material obtained was used without any changes in the assembly.

For the 150th year celebration of Brazilian Independence and with the intention of emphasising the country's history, *Os Inconfidentes* (1972) was published, "a historical film, but certainly does not contribute to a pompous and heroic vision of the Brazilian History", according to Bernardet (2009). Some others are launched with the same perspective, as the *Xica da Silva* (1978).

Following, the film *Ladrões de cinema* (1977) stands out and contests the means of production and cultural power. The production takes place during carnival in Rio de Janeiro when a team of North American filmmakers has their material stolen by the block of people wearing Brazilian indian costumes they documented. According to Bernardet (2009) this film "responds to the trend of historical films saying that it is impossible to revive the past, to provoke a resurrection of a past moment."

This period of production of Brazilian cinema, *Cinema Novo*, was not uniform and the productions presented varied peculiarities, especially those whose pretension was not only narrative but also critical. According to Carvalho (2008), the filmmakers believed that in making their films, they would also write a new chapter in the Brazilian history.

In fact, modern Brazilian cinema and its phases presented to the public precisely that the foreign film could not present: Brazil, the landscapes, the Brazilian people's unique habits, both those of the interior and the city. Therefore, this long period was fundamental to consolidate the cinema as a way of construction and representation of national identity.

After the extinction of Embrafilme by the National Privatization Program in 1990, the Brazilian cinematographic production was summarised drastically. However, it is noted that since its resumption, the films have shown an increasingly plural and diversified Brazil, as well as the concept of culture itself. Independent productions like *Central do Brasil* (1998) and *O Sertão das Memórias* (1996) marked the resumption.

The successive generations, with more or fewer difficulties, more or less success of public and critic, continue to make cinema in Brazil, with Cinema Novo as a valuable historical reference. Currently, the state incentive towards Brazilian cinema production is due fiscal renunciation through legislation such as the *Lei Rouanet* and public agency announcements promoted mainly by the Agência Nacional de Cinema - Ancine, Petrobrás and Banco Nacional do Desenvolvimento - Bndes.

## 5 FILM PRODUCTIONS FROM THE 2000S AND PLACES OF MEMORY

According to the Brazilian Cinema and Audiovisual Observatory, the agency responsible for transmitting information about Ancine, in the year 2000, the company launched 23 films made in five Brazilian states. In 2015, last update available, in eleven states 129 films were produced. The data show that the cinematographic sector realisation poles went through growth and expansion, usually established between Rio de Janeiro and São Paulo, now reaching states such as Pernambuco, Paraná and Paraíba, that is, spreading through Brazil.

Duarte (2009), who argues "it is always from the myths, beliefs, values and social practices of different cultures that written or audiovisual oral narratives make sense." We can identify examples of national films capable of expressing in their productions the movie importance for the recording and transmission of our cultural heritage in all its dimensions: *O Auto da Compadecida* (2000), *Cidade de Deus* (2002), *Narradores de Javé* (2003), *Lisbela e o Prisioneiro* (2003), *O Aleijadinho: Paixão, Glória e Suplício* (2003), *Tropa de Elite* (2007), *Tropa de Elite: O inimigo agora é outro* (2010), *Carandiru* (2003), *Aquarius* (2016), *O Som ao Redor* (2012), *Cidade cinza* (2014), are some responsible for narratives that refers to the national identity.

*O Auto da Compadecida*, directed by Guel Arraes and Mauro Filho, was released in 2000, after a successful mini-series format on Rede Globo in 1999. The film is an adaptation from the Brazilian writer Ariano Suassuna's work of 1955, a tool for cultural diffusion, a form of national literature and theatre dissemination. The dramatic comedy had locations with aspects of the northeastern *sertão*, being filming in Paraíba, in the city of Cabaceiras, setting the regional culture and religion, as well as historical aspects of national social relations, such as *coronelismo*, the *sertanejo* people poverty and their traditions. The setting highlight is the drought, the *cangaço*, and the daily life that recreates the regionalism characteristics. The sertanejos cunning to deal with small daily situations allows the Brazilian identity to be recognised and shared by the public, as well as to spread the social groups' history and memory that inspire and insert themselves in the novel.

We can associate what Benjamin (1994) describes as *The Narrator*, in other words, the figure that removes what he tells from personal experience or reported by others, and incorporates the narrated things towards the listeners experience in the figure of the character *Chicó*, which is central to the plot, along with *João Grilo*. There are dialogue scenes in which *Chicó* explores the narrator characteristics, telling facts that he would

have already experienced, even with fanciful aspects. He relives moments of regional history, which includes Brazilian folkloric beings such the *mulas sem cabeça*, *Saci*, and others, while describing daily local landscapes such as rivers, climatic situations, the fauna and flora, and the daily historical situations from the population's collective memory.

From the same director, *Lisbela e o Prisioneiro* (2003), is a romantic comedy, with a film inspired by the homonymous Osman Lins' piece of 1961, published in book format in 1964. It is also located in the northeast region, this time in Pernambuco, is another example of regional capture, focusing on accents and popular sayings.

The next example is *Cidade de Deus* (2002), a novel reproduction written by Paulo Lins in 1997. The scenario, in this case, is Rio de Janeiro city, with a documentary character imbued with literary aspects, since the author of the novel has immersed inside the community reality, taking participation in it to ambient his narrative, that focuses not on characters but on the peripheral community.

The film presents itself with different times, telling the spectator the Cidade de Deus community beginning in the 1960s, presenting the inhospitable constructions, the precarious infrastructure, the urban isolation, as opposed to the social relations of the first inhabitants, with the innocence of childhood, football, the proximity between neighbors. The second stage takes place in the 1970s, with drugs and violence expanding as far as the slum occupation, passing through this period with intense photography work, referring to fashion, language, music, ways of being and experience the place.

In its final phase, the movie portrays the 1980s onwards and highlights the unrestrained violence, the childhood as a tool for trafficking and the community's imagery of samba to which communities were initially related is definitely removed, to launch the spectator in the isolated social reality, who despite being part of the city of Rio de Janeiro, does not share the entire cultural landscape, but is immersed in its own characteristics and visions.

The immaterial aspects are once again the characteristics capable of translating the society's experience during both its insertion and adaptation. Religious syncretism, cultural pluralism of samba and carnival in contact with dances are seen, cooking is still explored, the way of speaking, social relations, the inequality to which residents of the same city are inserted as well as prejudice being portrayed as social agents from different origins of the city, living and participating in the Cidade de Deus slum.

In the Cidade de Deus production context and the contemporary way of understanding cultural heritage, in addition to identifying the presence of the intangible aspects of our culture, we can recall the 1964 Venice Charter: that also applied the notion of the historical monument to modest items with cultural significance. This recognition makes it possible to associate the slums as a strong identity brand of the Rio de Janeiro city, together with its unique landscape.

In the same vein of Cidade de Deus, with almost a documentary character and ambience focused on another important social aspect of Brazil, a former house of detention, *Carandiru* (2003) is a drama film, inspired by the book *Estação Carandiru*, from 1999, signed by Dráuzio Varella. The main focus in this aspect is the memory from a remarkable social fact, which is given by the intervention of the military police of São Paulo during a rebellion that took place in the Carandiru prison, causing more than a hundred deaths.

With other focuses, we come across the movie *Aquarius* (2016), within the genre of drama and suspense. It is a production that comes against the questions regarding the conflict between real estate market and place appropriation. The plot revolves around the life of a resident named Clara, on a building on the edge of the Boa Viagem beach in Recife. The values in this production teach us about belonging, awakening the object relationship understanding, and the meanings they have.

Morin (1969) in his studies on biographical objects, says that objects are part of the environment and intimacy of its users, portray the experience and vivency of those who own them, grow old with their owners, can be usual or decorative, and awaken memories.

The film deals with the problem of real estate speculation, which aims at market interests, leaving aside the people's affective values with their houses, which Bachelard (1978) says to be our songs in the world, one of the greatest forces of integration for thoughts, memories and dreams. The protagonist's struggle and resistance to stay in touch with the place where she formed her memory ties, go against the financial investments she receives, and the friction with her social circle that does not understand her connection with the place, besides the political question of the current meaning of progress in Brazil.

Also taking into consideration the city of Recife, *O Som ao Redor* (2013), based on drama, explores the relationship with places, the daily characteristics that public and private spaces have assumed, emptying, insecurity, and the way individuals are confronted with these conflicts and relate to their social groups.

Ultimately, and far from exhausting the cinema contribution as a tool for heritage education, we can highlight *Os Narradores de Javé* (2003), drama production. A production full of symbolism and lessons on how to identify the heritage and its importance to the population. Filmed in the interior of Bahia, Gameleiro da Lapa, the film tells of a small village called Javé, a place where the local population has always maintained its memory, its tradition and its culture through oral history, and when dealing with the risk of flooding their homes, as consequence of a dam construction, perceive the need to prove their historical heritage value as the last way to save the city.

From the attempt to save Javé through the writing of its history, various inhabitants are placed as narrators, and just like the collective memory dimension, each in contributing with their personal analysis, shifting the focus of each figure's heroism on the village foundation, besides adding imagined facts. At this point, the film allows teachers in classrooms to raise questions about the opposition between written and oral history and the importance of orality in scientific construction.

The modernity represented by the impending flood, a work of great impact in the village inhabitants' life, is another aspect that emphasizes the teaching in classrooms, being important in the discussion to understand the dimensions in which the cultural heritage presents itself, being necessary to affirm the recognition of this heritage that is already consolidated in the daily life of that social group, so that it can be protected.

The sense of progress appears in contrast to the maintenance of the village's tradition. Several other aspects are explored in the narrative, such as objects and their value of memory, the history continuity of the group that lived there, which, despite having its place destroyed, still maintains the social bonds or the counterpoint between a globalised world and living in a poor village.

## 6 CONCLUSIONS

The expression *we live in a country of continental dimensions* is a phrase of popular use and diffused in our daily life. This classification allows us to list important points regarding the identity of our country: territory, whether considering political or physical divisions, implies a series of different spatial characteristics capable of pluralizing us as a culture. Therefore, the sense of “Brazility” has extensive regionalisms and peculiarities.

Film productions, as explicit, extrapolate the power to communicate only one story, they allow us to observe the diversity we have as well as culturally educate us in the understanding of our own national identity. Heritage education is an action that can be disseminated in different formats and in cinematographic productions, personifications of our population are still presented, the faces of the *sertanejo*, the *carioca*, the *favelado*, and all the Brazilian archetypes who are placed as the narrators, as the builders of our diversity.

The cinematographic productions are, then, ways of expressing Cultural Heritage. Film preservation advocates maintaining the national identity and spreading the collective memory. We conclude that Carsalade's (2001) understanding that heritage ceased to be limited to the aesthetic qualities of the good itself, extending to the daily life, in the exercise of culture and communities socio-economic development is extrapolated in the films, which have the capacity to reproduce our daily lives in all its dimensions, and can enrich us culturally, and help us to understand the very plurality of Brazil as a nation.

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# VENICE CHARTER, 1964: BASIS, AGENTS AND PREMISES FOR ITS CONTEXTUALIZATION

**Patricia Viceconti Nahas**

University of São Paulo, São Paulo, Brazil. e-mail: patriciavicecontinahas@gmail.com

## **ABSTRACT**

The current disciplinary field of restoration is the result of the maturing of almost a century of theories and experiments where diverse doctrines, with reciprocal influences, concordances and contradictions between them, have as fundamental content the intervention in the monument for its safeguard and transmission to the future generations.

How to correctly interpret the intervention in the monument? There is no correct answer, but rather, proposals that maintain conceptual unity and methodological rigor for the preservation of the monument with the least possible intervention. The post-war debates led the field to create universal principles of tutelage that could be adapted to each culture, consolidating a new position that prized precisely because of this methodological rigor and the balance between the conservation of preexistence and the reintegration of the image with contemporary resources.

This article aims to discuss the context of fermentation of these ideas, agents and premises that provided the subsidies for the writing of the Venice Charter in 1964.

Keywords: Restoration / Venice Charter / Critical Restoration

## **1 INTRODUCTION**

The current disciplinary field of restoration is the result of the maturing of almost a century of theories and experiments where diverse doctrines, with reciprocal influences, concordances and contradictions between them, have as fundamental content the intervention in the monument for its safeguard and transmission to the future generations.

How to correctly interpret the intervention in the monument? How should contemporaneity be placed in relation to this preexistence? Today, the theme is dealt with in a variety of approaches: the new against the old, the new on the old, the new and the old, because there are innumerable interpretations of the principles pertinent to the field. There is no correct answer, but rather, proposals that maintain conceptual unity and methodological rigor for the preservation of the monument with the least possible intervention.

These themes formed the heart of the debate and represented a moment of maturation and reflection for the theoretical-methodological advances in the field of restoration. The disciplinary debate sought to find a mechanism for international cooperation that could combine criteria and guide behavior in relation to the conservation and restoration of cultural heritage. The creation of a Charter with prescriptions and indications could establish universal principles of tutelage and, in specific cases, adapted to each culture. The post-war years were decisive in consolidating an attitude

that will take shape in interventions in preexisting buildings of historical and artistic interest - the old x new dialogue, derived from the double postulate assigned to the act of restoration: critical and creative - and to sediment a new position that values the balance between the conservation of preexistence and the reintegration of the image with contemporary resources.

## 2 THEORETICAL PREMISES: CONSERVING AND REVEALING VALUES

### 2.1 THE RECONSTRUCTION YEARS – THE ‘OLD’ AND ‘NEW’ CONFRONTATION IN THE HEART OF DISCIPLINARY DEBATE

The projective responses to the current methodological problems were fueled by debates arising from the disasters caused by World War II. The discussions gained intensity and deepening with the war events of the 1940s and the beginning of the reflections on the reconstruction of the cities. It is perceived that the precepts previously held as truths inherent to the debate could not meet the new demands of the cultural context.

Numerous theorists anticipated these discussions and questioned restoration practices then in force. Roberto Pane, Agnoldomenico Pica and Cesare Brandi, the first two in their writings and the third in his work at the Istituto Centrale di Restauro, already waved to a new reality about the interventions and the relation between old and new, seeking the balance and coexistence between them.

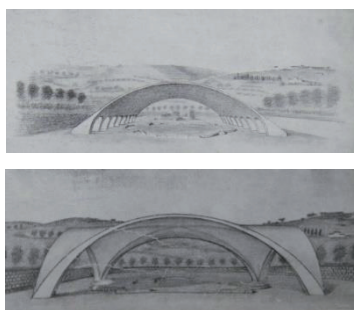
As early as 1941, the February issue of *Casabella-Costruzioni* presented a collection of articles organized by Agnoldomenico Pica entitled "L'Architettura Antica e noi" (PICA, 1941), discussing the problems of the insertion of modern architecture and urbanism in view of the monuments of the past, from the theoretical point of view and its practical applications.

Among the restorations presented in the magazine issue, we mention herein the three design options of Piero Gazzola for the preservation of the mosaic floors of the ruins of *Casale di Piazza Armerina* in Sicily.

For the protection and musealization of the *Casale Siciliano*, Piero Gazzola develops three different cover studies for the mosaics: the first one, a wide cover in crib vaulted supported on two sides, in reinforced concrete; the second one, in a dome of edge in reinforced concrete, touching the ground only in the four points of support. According to Pica, both solutions fulfilled the required scope that was to protect the archaeological remains of the atmospheric agents (PICA, 1941), but were not accepted. A third proposal was executed: the construction of a building using the ancient Roman foundations, resuming the form in its compositional language, but not reproducing it equally as a *ripristino*. The accepted solution, practically imposed, was more adequate to the thought and practice of restoration executed at the time, to use the original architectural text as a documentary reference to operate reintegrations or recompositions.

The three solutions proposed by Piero Gazzola fulfilled the objective of protecting the archaeological site with its mosaics, but the solution chosen re-created the original design using modern materials and techniques, with a traditional compositional proposal that rescued the design of the architecture of the past. The first two solutions

also presented the use of current techniques, but a modern and innovative design - an architectural practice inserted in its time -, propitiated by the material and constructive technique adopted (the concrete), marking the distinction between the new and the old.



**Figures 1 – 2 : Design by Piero Gazzola for Casale di Piazza Armerina in versions 1, 2 (Casabella, n.182, 1941, p.11)**



**Figure 3 : Design by Piero Gazzola for Casale di Piazza Armerina in version 3 (Casabella, n.182, 1941, p.11)**

After the end of military actions on Italian territory, actions systematically began for reconstructing the country. In *I Convegno Nazionale per la Ricostruzione Edilizia* (BENEDETTI, 1986), the decisions limited to the emergence of a reconstruction plan by the Government with total freedom of action for both public and private sectors. In the International Exhibition of Urbanism and Housing (BENEDETTI, 1986), held in Paris, in 1947, Italy manifested its reconstruction plan giving path to the discussion of reconstruction of monuments among others.

In the same year, a volume denominated “Cinquanta Monumenti Italiani Danneggiati dalla Guerra”, was published by *Associazione Nazionale per il Restauro dei Monumenti Italiani Danneggiati dalla Guerra*, in collaboration with *Ministero della Pubblica Istruzione* (ASSOCIAZIONE NAZIONALE PER IL RESTAURO, 1947).

The introductory texts by Croce and Bianchi-Bandinelli present a critical character for a moment of fundamental reflection on the methodology adopted in the conservation and restoration of monuments and sites. Bianchi-Bandinelli draws attention, in the face of the will of the majority - scholars, theorists and population - about the need to rebuild and recover works as they were, for the quality of the result itself: the remaking of a destroyed building would be like to tell a lie and, according to him, the restoration should not be done to deceive the one who enjoys the monument, but at the same time, it must perpetuate the symbolic values of the monument.

In 1944, when “Il dopoguerra dei monumenti e delle vecchie città italiane” (GIOVANNONI, 1945) is written, Gustavo Giovannoni realizes that the Scientific Restoration and the premises of both the Athens Charter, from 1931, and the Italian Restoration Charter, from 1932, cannot solve the problems of great gaps caused by the war.

In his understanding of the safeguarding of monuments and the disciplinary field of restoration, Gustavo Giovannoni briefly reflects on the destruction left by the war and proposes what he calls the “scientifically imperfect restoration”:

sarà meglio un restauro scientificamente imperfetto, che rappresenti una scheda perduta nella storia dell’architettura, che la rinuncia completa, la quale priverebbe le nostre città del

loro aspetto caratteristico nei più significativi monumenti d'arte (a scientifically flawed restoration, which represents a lost card in the history of architecture, would be better than the complete renunciation, which would deprive our cities of their characteristic appearance in the most relevant art monuments; GIOVANNONI, 1945)

Giovannoni, to try to justify his new position in favor of stylistic restorations, takes as an example the fact that the monuments of the past took years to be built, through the design and conduction of several architects who continued the work of his predecessor. The restorations in style, for the recovery of the monuments destroyed, according to him, would be like a way of giving continuity to a previous work; but the great difference between the example given by him and the reconstruction of monuments lies in the loss.

Only with actions of *ripristino* the wounds left by the warlike conflict could be "erased." The restoration of monuments and whole historic centers would restore to the Italian people not only the monumentality of their patrimony, but their identity.

These discussions on how to intervene in isolated monuments and in the groups destroyed by the bombings intensified the debate in the disciplinary field of restoration, promoting the manifestation of several positions, now more rooted in the Italian tradition and the reconstitutions of lost preexistences, and more condescending with the new modern manifestations, which could not be denied or rejected by the architectural production of the moment.

Post-war interventions were still closely tied to the practice of reconstruction *com'era dov'era*. In celebration of the V General Conference of Unesco, held in 1950, aiming to show the plan of activities concerning the recovery and reconstruction of monuments in the post-war period, the *Ministerio della Pubblica Istruzione* and the *Direzione Generale delle Antichità e Belle Arti* published a work composed of texts and images of restorations concluded and those in progress (at that moment), which evidences the preference for style restorations, despite all discussion.

Entitled "La Ricostruzione del Patrimonio Artistico Italiano", the publication has a preface by Roberto Pane that draws attention to the new reality found by the disciplinary field of restoration in the face of the great gaps left by the war (MINISTERO DELLA PUBBLICA ISTRUZIONE, 1950).

Although the content of "La Ricostruzione del Patrimonio Artistico Italiano" brings a series of restorations of monuments where the highest percentage is characterized by the reintegration of buildings destroyed through the *ripristino*, with some cases of anastylosis, Pane is not intimidated to put in discussion the problem originated from transforming a simple work of consolidation - as it was practiced before the war - into a complete reconstruction.

Pane makes it clear that the mentality is inadequate and that dialogue with the new architecture must be recognized. From learning from the mistakes of the past, safeguarding built heritage can build new tools and criteria for the conservation of monuments. He also said that each monument should be seen as a unique case - an idea brought to the present day - where, despite being subject to a set of prescriptions and parameters, it is studied and analyzed individually, case by case. He advocated the need to preserve the monument in its historical and artistic stratification, but at the same time it was in favor of adopting new materials.

Contrary to Pane's thinking and agreeing with Giovannoni, the same publication presents the text "Restauro dei Monumenti" (MINISTERO DELLA PUBBLICA

ISTRUZIONE, 1950), with a fairly contradictory beginning as for conservation and proposing the *ripristino*. Taking as an example the Church of the *Magione* in Palermo, Sicily, the text defends its thesis in favor of the *ripristino*:

è un edificio del XII secolo più volte colpito, ma non distrutto, nell'abside, nel ponte, nel presbiterio, nelle navi. Cosa fare? Ricostruire le parte abbattute, dove, fra l'altro, in altri tempi, s'erano svolti lavori di restauro che avevano ridonato all'edificio il primitivo aspetto e ricostruirle con nuovissimi caratteri, o risarcire pazientemente le parti colpite in modo che l'osservatore potesse a suo agio intendere il valore delle forme romaniche dell'edificio e d'altro canto subito avvedersi degli elementi necessariamente nuovi inseriti nel complesso architettonico perché questo non perdesse alcuno dei suoi valori di linea e di massa? Non si sono avuti dubbi in proposito e si è scelta la seconda soluzione (It is a building of the twelfth-century repeatedly hit, but not destroyed, in the apse, in the bridge, in the presbytery, in the naves. What to do? To rebuild the demolished part, where, among other things, in other times, a restoration work had been performed so that it had provided the building the primitive aspect and rebuild it with brand new characters, or to patiently compensate the affected parties so that the observer could easily understand the value of the Romanesque style of the building and on the other hand immediately notice the elements necessarily included in the new architectural complex so that it does not lose any of his line and mass values? There were no doubts about it and the second solution was chosen; MINISTRY OF PUBLIC EDUCATION, 1950).

It is important to emphasize that in the same issue there is a chapter dedicated to the work of the *Istituto Centrale di Restauro*. The *Istituto*, directed by Cesare Brandi, became the place of maturation of his theory, emphasizing his hegemony and erudition in translating his ideas into principles. The Institute developed a philological activity whose purpose was the restoration of works of art as a scientific activity and of philological research, in order to reintegrate the original image of the work of art.

The works of art were restored according to a unit of principles and methods based on a critical reflection, based on respect for the original material, demonstrating that in the applied arts a methodological maturity was reached that only two decades later would be achieved with the architectural works.



**Figures 4 – 5 : Before and after the restoration of Lorenzo da Viterbo frescoes in the Church of *Santa Maria della Verità*, Viterbo (MINISTERO DELLA PUBBLICA ISTRUZIONE – DIREZIONE GENERALE DELLE ANTICHITÀ E BELLE ARTI, 1950, p. 184)**

In the case of the fresco of Lorenzo da Viterbo, in the Church of *Santa Maria della Verità* in Viterbo, where the fragmentation was recommenced with approximately 2 cm<sup>2</sup>, the subtle vertical streak watercolor technique was used to restore the missing parts of the work and provide full reading of the fresco. The result is that, from a

distance, the interventions are almost imperceptible, allowing the complete reading of the work; but, approaching the fresco, it is perceived that the intervention differs from the original material of the work (MINISTERO DELLA PUBBLICA ISTRUZIONE, 1950).

At the same time that it was not possible to deny the reconstruction of the monuments, it was not possible to continue with the methodology of scientific restoration. The time had come to confront the dialogue between old and new architecture and urbanism, promoting a new orientation in the field of preexistence interventions.

Pane's reflections are able to reach the point of the question of interventions in architectural texts - with problems of reading either by gaps or additions - and treat them as each case, a unique case. By adding to the aesthetic and historical instances, the psychological instance, places the restoration as an act of culture intrinsically linked to that society where the monument to be restored is inserted. By opting for critical judgment as a guide to restoration decisions, it combines the evaluation of material values, historical and memoirs of the work and the confrontation with the need to insert the new as a minimal intervention, guiding the balance of the act of preserving and the act of fantasy for the better reading of the monument (CARBONARA, 2010).

The proposal of Pane and the other theorists who directed the main formulations of the Critical Restoration were based on the truth of the work, trying to preserve and facilitate the reading of the monument in its original characteristics.

The orientations of interventions on monuments destroyed by war sought the truth of the work, based on previous examples, on the reconstitution of original characteristics in the face of the irreparable loss they faced. The loss of tradition, represented by the aesthetics of its monumental patrimony, led to the recovery of monuments through the restoration in style of the lost sections; And this position was based on the predecessor's own experience.

## **2.2. CRITICAL RESTORATION, THEORY OF RESTORATION AND VENICE CHARTER: METHODOLOGICAL RIGOR AND A BIT OF FANTASY**

The maturation of these issues is clear with the publication of Renato Bonelli's "Restauro Architettonico" entry, a "typically modern" formulation (BONELLI, 1963) of the new direction given to the field of tutelage at that moment, inserting the monument in the culture of its time, as a continuity of a past of recognized value to a society, in which its conservation has as fundamental argument the valorization of this memory in a present moment and the preservation of this testimony in a future time.

The central logic of critical restoration is to consider the work of architecture as a work of art; consequently, it acquires document value, both for its artistic and historical qualities, and is in itself unique. When being object of conservation and restoration, the work cannot be analyzed from fixed rules. It is when the axiom "every case is a case" arises - each work of art must be evaluated in particular, it is a unique monument in its physical and spiritual characteristics and its artistic, historical and symbolic values will be evaluated.

Bonelli makes it clear that restoration moves between the critical and creative dialectic - critical in creating the conditions for intervention, from the recognition of the monument's value, the identification of its essential characteristics and the destination of use (when appropriate); creative way of materializing ideas into actions directly on the monument.

The duality between these actions, the search for the right measure, the limits between

one or the other, or confirm the success of the intervention, or have caused deep losses in the monument. This dialectic, which involves a process of choice and critical evaluation, will, in a way, legitimize the approximation of the contemporary architecture of historical contexts, creating a two-way street - on the one hand, allows innovation, through continuity and insertion of the monument in the present life; on the other hand, leaves the monument subject to a vulnerable relationship with the "new" when there is a lack of historical and critical responsibility on the part of the architect who is the author of the intervention.

The great contribution of the Critical Restoration to the restoration culture was to find a way of approaching the new architecture to the architecture of the past, proposing through critical judgment a continuity between present and past, inserting the monument in contemporary life.

However, it is important to emphasize that this was not its basic premise, but rather the necessity to intervene in a historical context, whether singular or jointly urban. The disseminators of this thought were clear in their formulations that intervention should be preceded by the permanent maintenance of preexistence; restoration was not understood as a purpose, but rather as a means for conservation. This notion of degrees of intervention, from preventive maintenance to restoration, will become clear in the debate in Venice, 1964.

The publication of *Teoria del Restauro* de Cesare Brandi (BRANDI, 1963), seeks to give a conceptual and critical unity to the theoretical-methodological field by parametrizing its restoration principles for all artistic manifestations, including architecture. The intervention in the monument starts from its recognition of value as a work of art, the fruit of human doing.

Cesare Brandi does not stand against Critical Restoration, on the contrary, both come from the same references - Benedetto Croce's concepts of aesthetics and philological restoration - but their postulates, translated in a theory, are more restrictive than the premises present in the discourse of Critical Restoration. It places the work of art under the influence of historical and artistic instances, instituting a judgment of value for the work of art to be restored. According to Brandi, each case of restoration of a work of art must be evaluated according to this polarity, and now more importance will be given to the aesthetic instance, or to the historical instance. The restoration project begins with the recognition of the artistic value of the work in its physical consistency with a view to its transmission to the future (BRANDI, 1963) - and then it assigns the aesthetic and historical instances.

All these discussions will be officially settled with the signing of the 1964 Venice International Restoration Charter, which establishes stronger guidelines for the restoration act, narrowing the path between theoretical debate and project practice, and proposing a common denominator intervention criteria.

The Charter was born at the II International Congress of Architects and Technicians of Historical Monuments, held in Venice between May 25 and 31, 1964. It became the official document of ICOMOS, adopted in the interactive field of restoration by its member countries. The writing is a result of the adaptation of the text of Roberto Pane and Piero Gazzola, "Proposte per una carta Internazionale di restauro" (INTERNATIONAL COUNCIL OF MONUMENTS AND SITES, 1964).

In its introduction, attributed to Paul Philippot (KÜHL, 2010), it emphasizes the safeguarding of the patrimony as "living testimony" of the traditions of the peoples, loaded with spiritual messages worthy of being transmitted to future generations. In



this sense, it establishes the maximum premise of the "why" to preserve.

The Venice Charter re-examines the principles contained in the Athens Charters, in order to deepen them and give them a critical spirit with regard to interventions in the patrimony. Its articles present, fundamentally, recommendations on the interplay between the old and the new - they warn of the falsification of the monument and the balance of the composition before this interlocution. To copy the past is only to realize a fictitious construction, which does not show us the way of thinking of a generation, but rather demonstrates a regression of man in relation to his history.

In its text, the Charter shows an expanded view of heritage: as a historical monument, including not only unique goods of exceptional value, but urban, rural and modest buildings, all products of human activity that have a cultural significance (INSTITUTO DO PATRIMÔNIO HISTÓRICO E ARTÍSTICO NACIONAL, 2004).

Although it is a prescriptive document - the Venice Charter does not give the correct formula of intervention, but guides it within the theoretical postulates of the time it was written - its main objective is to establish parameters that guide the restoration project. Its articles are not arbitrary, the result of a discussion of an international meeting, but the result of a wide debate in the field of restoration. According to Beatriz Kühl, more important than knowing how to interpret it, it is to know the basis of the discussion that originated it and how its indications were apprehended in practice (KÜHL, 2010).

For Roberto Di Stefano, the relevance of the Venice Charter is the fact that it "comprendere che il patrimonio culturale costituisce il punto di riferimento fermo e certo al quale, oggi, può guardare il nostro spirito sbandato dalle incertezza" ("understands that cultural heritage constitutes the solid and certain reference point that protects us all, at present, of uncertainty"; DI STEFANO in LEMAIRE, 1995).

The purpose of the Charter, expressed in article 3, "the conservation and restoration of monuments aim to safeguard both the work of art and historical testimony" (INSTITUTO DO PATRIMÔNIO HISTÓRICO E ARTÍSTICO NACIONAL, 2004) emphasizes the double polarity of the monument expressed both in its artistic and historical values, influenced by the discussions of the time and by the relative conceptual advance in relation to the theme, especially with the publications, a year before, of Cesare Brandi's theory and the term Restoration of Brandi and Renato Bonelli, inserted in the *Enciclopedia Universale dell'Arte*.

The main premise of the Venice Charter is expressed in Article 9, and is complemented by Articles 10, 11, 12 and 13, which defines restoration. The indication of the goal of restoration in "preserving and revealing aesthetic and historical values" once again shows us the dialectic between the aesthetic and historical instances and that the intervention action is defined precisely by the recognition of these monument values.

Article 9 is the basis of any interpretation for an intervention; guides the attitude of the architect-restorer towards the monument when he states that the choices must respect the original material, be based on the in-depth study of the monument and, above all, have an exceptional character. Restoration is an activity of exception, only practiced when preventive maintenance and continuous conservation fail to meet the "to preserve and reveal values" sentence.

Having a prescriptive nature, the Venice Charter is not a manual or a prescription, but a set of interpretable criteria that guide the conservation and restoration project, incorporating the necessary subsidies for the approximation of the new one with the

old one, presenting a method of intervention that may be appropriate to the specific context of each country.

The pressing issues in the discussions of the 1950s and 1960s in the disciplinary field of restoration promoted a reassessment of theoretical bases, a deepening of the heritage safeguard sector, and, with common sense and methodological rigor, provided substantial guidance for interventions in historical preexistence.

Ideas and practices related to the Critical Restoration, as well as the Venice Charter, were not unanimous in Europe, neither in Italy itself, but within the disciplinary field of restoration, where modes of conceiving intervention result in different interpretations and solutions, restoration as a critical act provided a new way of understanding the monument and facing the choices in the proposed intervention, unlike what had been practiced and devised in the field, with a relative predominance of typological restoration.

### 3 FINAL CONSIDERATIONS

Theoretical and practical production in the field of Italian restoration shows us that the absorption of the formulations of the Critical Restoration by the Venice Charter provided the conditions for the coexistence between the new architecture and the architecture of the past. Not only did Brandi's Theory of Restoration succeed in expressing principles in practice, he also parameterized the arts in general by establishing valid criteria for the restoration of both the applied arts and architecture.

However, as a complex activity, the ideas of the critical restoration did not find a methodological unanimity in the theoretical and practical field, generating other forms of interpretation of the history and the cultural demands of a society.

After the proposals of the Critical Restoration, the Venice Charter and the formulations present in the theory of Cesare Brandi, new positions emerged based on their theoretical-methodological aspects. These positions are still speeches in preparation, which share, as a premise, the guarantee of permanence of the works of the past, their transmission to the future and the intervention actions subsidized in the conservation and revelation of values in monumental interventions.

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# VALUES ASSESSMENT TOWARDS DECISION-MAKING IN CONSERVATION: THE VICEREGAL PORTRAIT COLLECTION OF PORTUGUESE INDIA

Ana Teresa Teves Reis<sup>1</sup>, António Candeias<sup>2</sup>, Fernando António Baptista Pereira<sup>3</sup>

<sup>1</sup> HERCULES Laboratory (Évora University); CIEBA (Faculty of Fine-Arts, Lisbon University), Portugal, teresa.mbragatetevesreis@gmail.com

<sup>2</sup> HERCULES Laboratory (Évora University). Palácio do Vimioso, Largo Marquês de Marialva, 8, 7000-809 Évora, Portugal, acandeias@uevora.pt

<sup>3</sup> Faculty of Fine-Arts (Lisbon University). Largo da Academia Nacional de Belas Artes, 1249-058 Lisboa. Portugal, fa.baptistapereira@belasartes.ulisboa.pt

## ABSTRACT

The portrait gallery of the vice-roys and governors of former Portuguese State of India is a unique collection which testifies 450 years of Portuguese ultramarine history. Although most of the earlier paintings are in a very poor state of conservation, one can still identify different intangible values which are important to recognize in order to properly interpret the collection, as well as defining a conservation methodology. The recent study of these portraits allowed the assessment of values as well as the development of several approaches concerning their valorisation in which regards decision-making towards its conservation. In this paper we will explore values assessment in this collection as well as useful diagrams that help quantify intangible values under the scope of contemporary conservation theories.

Keywords: Vice-Roys gallery / Values assessment / Paintings conservation/ Decision-making diagrams / Repaints

## 1 INTRODUCTION

*Conservators have a unique role among the professionals that deal with cultural property; they alter the object itself, not just people's ideas about it. Conservators therefore have a special responsibility to consider both material and non-material information's in their decision-making.* (APPELBAUM, 2010)

During our team's first fieldwork in Archaeological Survey of India Museum (Old Goa) in 2011, we made the survey of the conservation condition of all 72 portraits in exhibition, 55 in wooden support and 17 in canvas. At the time, it wasn't possible to include in our survey the portraits in reserve rooms, where 44 portraits are kept, 32 in wooden support and 12 in canvas. In terms of chronological frames, the older paintings were made in 1547 and the last one, the photography from General Governor Manuel Vassalo e Silva, dates from 1961 (Table 1). The conservation condition of the collection is variable as well as the causes of degradation, but for the purpose of this paper, we will focus on the repaints issue. In fact, the older paintings on wooden support are the ones in worst condition. Among these, some are only partially repainted in the background around the figure of the ruler, but the majority, around 31 portraits in exhibition and an extra 24 in reserve rooms (chronologically situated between 1547 and 1680) are fully repainted with several layers of paint from the XVII<sup>th</sup> and XIX<sup>th</sup> centuries. These will constitute the case-study for this paper.

**Table 1: Chronologic distribution of the portraits from the Vice-Roy Gallery and their support (including the three MNAA portraits)**

Attributable period	Number of governments	Number of portraits	Support
1547-1600	33 (since 1505)	32 (16 in display)	wood
1605-1645	15	17 (13 in display)	wood
1651-1698	22	24 (13 in display)	wood
1701-1750	16	14 (9 in display)	wood (12) / canvas (2)
1754-1794	11	6 (5 in display)	wood (3) / canvas (3)
1807-1844	24	3 (2 in display)	canvas
1851-1900	34	8 (4 in display)	canvas
1905-1961	28	13 (8 in display)	canvas (12) / photo (1)

A preliminary observation allowed the identification of older paint layers underneath the surface. Moreover, it was also clear the presence of underlying details such as lacunas and other textures highlighting different compositions of the figures, coats of arms and details such as the raised decorative effects of the rulers' costume or background draperies. Further documental investigation proved this collection suffered several 'renovation' interventions over 400 years which added up to four different layers over the original painting. Also, the comparison between some of the portraits restored in 1954-61 and the gallery's descriptions from coeval documents proved the artistic quality of these paintings, and their iconographic value, depicting the coats of arms, insignias, armoury and other attributes of each ruler. The original compositions held a unique documental value to ultramarine history and indo-Portuguese art history which remains sadly hidden behind several layers of paint. From a painting conservator point of view, a number of questions pops up immediately:

- a) To remove or not to remove the repaints?
- b) Should historical values prevail over originality values? Most interventions are documented and took place in a specific identified context, some of them have attributed authorship.
- c) The technical needs of such endeavour are enormous and need prior exams to assure the original layers are still there and that can be recovered.
- d) ASI's policy of non-intervention has probably saved this collection from a worst destiny, but its current conservation condition brings about misinterpretation issues and loss of values. Are the custodians aware of these issues?
- e) Who should decide then which values should be preserved? And how could we cooperate?

Reviewing contemporary conservation theories seemed an interesting start point to address our questions.

## 2 ASSESSING HERITAGE VALUES

### 2.1 WHY? HOW? BY WHOM?

Conservator Barbara Appelbaum, considers conservators shouldn't be the only ones responsible for intervention decisions which can lead to dramatic alterations of values in a work of art. Her opinion is that *an optimal treatment will rely on explicit decisions shared with all stakeholders, not by the formulaic applications of familiar pre-conceived patterns of treatment* (APPELBAUM, 2010). In order to reach consensus in this

multidisciplinary approach, she developed an intervention methodology which allows the construction of a '*structured space*' for discussion, between experts, custodians and stakeholders, regarding the valorisation or loss of values and/or meanings that can occur from conservation intervention. She believes an open discussion and sharing of responsibilities, in what concerns values assessment and the expected treatment outcome, increases the probability of a successful intervention. All steps of her methodology<sup>1</sup> seem pretty clear to what concerns traditional conservation practice, but the third, '*Determination of the ideal state*', presumes the existence of that *shared decision* towards values assessment, that conservators and other heritage professionals, custodians and stakeholders are normally not used to share. Usually, the values more associated with the object's authenticity will prevail, in a non-shared decision process. However, conservation theorist Salvador Muñoz-Viñas, reflecting about the 'ideal authentic state' of the work of art warns us that authenticity as an '*essential qualifying factor concerning values*' (as proposed by Nara's Document on Authenticity) is relative and highly influenced by each person's own 'favourite authentic state', which derives from one's personal relation created with the work of art. Furthermore, he points out that conservation practice can alter the object, but cannot make it more authentic, for '*the only truly authentic condition of anything is the state in which exists*' (MUÑOZ-VIÑAS, 2009).

What these author's tell us is that conservators should avoid unclear or biased decisions in conservation practise, based only on common methodology methods which primarily address material preservation and the search for the 'authentic' in a single perspective. Values assessment should then become an objective process, through which conservator, custodian and stakeholders contribute to a shared definition of heritage cultural significance, which respects cultural identity, since authenticity has proven to be a relative concept. For the conservator, this means leaving a comfort zone and finding a way to interact with a new collective who will have different perspectives regarding the scope of his/her work and that are supposed to participate in its process. In effect, recent trends in conservation developed since the Nara convention in 1994 highlight the need for conservators to open from academic and institutional framework towards a broader and inclusive participation in civil society, to what concerns heritage. In a global context of change as a natural process in the evolution of societies and heritage functions, conservators are meant to play an important role, among other stakeholders, when defining values such as cultural identity and cultural significance (AVRAMI, TORRE, 2000). This sharing of decisions, on the other hand, assumes that 'negotiations' concerning heritage values can generate debate between the different groups in society who believe have a right over it. Furthermore, after some years of value-based conservation management and practice, authors stress out that the social value and the participation of the public aren't still properly included in heritage values assessment and implementation processes (POULIOS, 2010; DÍAZ-ANDREU, 2017), leading to decisions based in implicit rather than explicit heritage significance (FREDHEIM, KHALAF, 2016). Conservator Irit Narkiss had already pointed out that social significancy comes from the relationships the public makes with heritage objects and sites (NARKISS, 2007) so engaging the public within heritage values assessment is a challenge that still needs to

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<sup>1</sup> The methodology she proposes is divided in 8 steps: 1) Characterization; 2) Historic reconstruction; 3) Determination of *ideal state*; 4) Decision on a *realistic goal* of treatment; 5) Choosing treatment methods and materials; 6) Pre-treatment documentation; 7) Treatment; 8) Final treatment documentation. (APPELBAUM, 2010).

be addressed. Case-studies regarding public access to technical art history and conservation issues in exhibitions (SHELDON, 2008) highlighted the positive response from the audience to a 'universalist' approach. The use of visual material allowed a 'sense of discovery' and promoted different levels of interpretation by the public. Effectively, architectural historian Daniel Bluestone had already suggested contemporary conservation should move towards interpretation, by making places and creating social connections, an approach which will have a more close connection to '*values-and-benefits part of conservation*' (BLUESTONE, 2000). Conservation practice must then ensure correct interpretation of the object's dual nature, i.e. its material and non-material aspects, where the conservator bears responsibility for identifying the appropriate interpretation after consultation with other parties and for devising a treatment that embodies it (APPELBAUM, 2010), a process still not very common in conservation-restoration practice, although included in E.C.C.O.'s (European Confederation of Conservator-Restorers Organization) professional guidelines.

*Article 6: The conservator-restorer, in collaboration with other professional colleagues involved with cultural heritage, shall take into account the requirements of its social use while preserving the cultural heritage. (...) Article 24: The conservator-restorer shall strive to promote a deeper understanding of the profession and a greater awareness of conservation-restoration among other professions and the public. (E.C.C.O., 2003)*

Ultimately, considering this broader meaning of conservation, the conservator's role, by assuring the correct interpretation of heritage, 'universally and democratically' accessed, will help promote education, awareness, preservation, thus contributing to more conscious trends of other economic and political activities. On a more practical level, let's apply these reflexions to our case-study and how could they be developed.

## 2.2 ASSESSING VALUES TOWARDS CULTURAL SIGNIFICANCE. A CONSERVATOR'S INTERPRETATION OF THE VICEREGAL GALLERY

Cultural heritage values are qualified in different typologies, attributed by theorists and international charters over time. Depending on the heritage category and authors' expertise and approach, the values chosen for assessment may vary. For our case-study, we will continue to adopt objects conservator and theorist Barbara Appelbaum's proposed terms, considering their relation with the collections' interpretation and influence on treatment methodologies. This values assessment<sup>2</sup> is influenced by our personal and professional relation with the collection, in the context of our investigations, assuming that this isn't a definitive process, but a starting point, and that should benefit from other points of view as mentioned earlier.

*Artistic Value:* Currently, due to overpaint layers, the real artistic value of this collection can't be properly appreciated. Even in the portraits which were restored in the former Institute for Exam and Restoration of Works of Art, the chromatic integration process valued aesthetic rather than the interpretive appreciation. Still, comparison between restoration reports and documentation from the XVI<sup>th</sup> and XVII<sup>th</sup> centuries, proves this collection has an important artistic value in the context of portrait collections and indo-Portuguese art. The study of these paintings would allow to gather new information regarding authorships, artistic activities and techniques from local painters as well as establishing artistic comparison between indo-Portuguese painting.

*Aesthetic Value:* Again, aesthetic value of this collection is hidden behind overpaint layers, but some of the restored portraits illustrate the potential aesthetic visual impact of these paintings. In fact, as in other regal or viceregal portrait collections, the decorative and plastic qualities of the composition matched the portrayed importance. Besides, the paintings were produced by the

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<sup>2</sup> Although Appelbaum includes *Newness Values*, we considered that was not applicable to our case-study.

most qualified artists working in the region at the time.

*Historical Value:* Commissioning the portrait of the Portuguese 'Estado da Índia' ruler before leaving the government was a tradition that started with vice-Roy D. João de Castro in 1547, that lasted until the last general governor António Vassalo e Silva, in 1961. All the portraits contain information regarding the ruler represented, namely their name, period of government and sometimes their political or military achievements. The portraits also represent other information such as coat of arms, military insignias and other personal information associated with the ruler's biography, thus adding a unique *documental* and iconographic value. This collection has been reproduced several times throughout history, as well as cited in travellers and explorers documents, giving us precious information regarding its evolution in terms of places of exhibitions and renovation interventions. In addition, the last major renovation intervention by Captain Gomes da Costa (future 10<sup>th</sup> President of Portuguese Republic) is signed and also reproduced in an aquarelles album produced by Costa himself. Later, the portraits restoration process in the Institute for the Exam and Restoration of Works of Art<sup>3</sup> in Lisbon also added a few pages to this collection's history, mainly due to Afonso de Albuquerque's intervention. This iconic representation is, in fact, just an addition to other rulers' portrait, in a misinterpretation which dates back to 1840 and that lingered after restoration process due to a political decision which involved several personalities from the culture and political sphere of that time.

*Use Value/ Function:* The collection's current use differs from its original use or *function* a term we prefer to use in this context. The Vice-Roys and Governors portrait gallery's purpose was to emphasize the Portuguese's heroic achievements overseas as well as their precedence in Asian territories. This gallery created a great visual impact to all its beholders, deliberately creating an imposing and reverent background of all diplomatic events in the main Acts room, resembling an iconostasis. Viceroy and humanist D. João de Castro idealized this gallery in 1547, probably inspired by other European portrait galleries and also to enhance the notion of Empire associated with the Portuguese territorial extension from western Lisbon, ruled by King D. João III, to eastern Goa. Historian Annemarie Jordan-Geshwend believes D. João de Castro was 'honouring himself and also paying a visual tribute to the epic men that preceded him'. Anyway, this original function had already changed in the late XIX<sup>th</sup> century, when the portraits were restored by Gomes da Costa in order to be incorporated in the future *Real Museu da Índia Portuguesa* (Royal Museum of Portuguese India) to be established in Old Goa, in the context of several activities towards Old Goa's heritage preservation and musealisation (MENDIRATA, SANTOS, 2011). Current function of the portraits in Goa is associated to archaeological artefacts and other objects from former Portuguese period, such as currency, stamps, statues and Christian art, according to ASI's policy to keep antiquities in association with their place of origin (ASI, 2013). Regarding the three portraits incorporated in National Museum of Ancient Art, in Lisbon, two of them are exhibited together with oriental art, associating a more symbolic and iconographic function.

*(Hidden) Research Values:* Scholars and experts have been stressing out the need for adequate restoration of this collection since the beginning of the XX<sup>th</sup> century. In fact, the portraits appearance have no valid research value to what concerns original historic information such as the rulers physiognomy, their coats of arms and other artistic, aesthetic and historical data mentioned above. Moreover, even the restoration process of some paintings didn't value original aspects, but aesthetic ones, so the original inscriptions are concealed as well as other iconographic information. These images can't be classified as being true to their original composition in the illustration of academic or non-academic publications. Besides, the exchange of portraits during renovation processes created a series of historic forgeries that can't be considered historically accurate for research. Nevertheless, there is a high research potential

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<sup>3</sup> Between 1953 and 1961, seven portraits of this collection were restored in the 'Oficina de Beneficiação de Pintura Antiga' (*Old paintings improvement studio*), under the supervision of restorers Fernando Mardel and Abel de Moura (from 1960 onwards). This studio was in the Institute for the Exam and Restoration of Works of Art, which was under the survey of the National Ministry of Education. During that time Portuguese government was ruled by a dictatorial and centralist regime.



regarding the materials and techniques used, from several periods, to the study of indo-Portuguese paintings and also regarding historical and iconographic information. Still, there is a need to conduct scientific exams and analysis to reveal those hidden research values.

*Age Value:* The overall condition of the portraits illustrates age value. Materials natural degradation, paint flakes, yellowing varnishes, artists techniques used, repaint layers, etc. If restoration intervention is meant to take place, methodology should respect age value and correct interpretation, rather than recovering the aesthetic apparatus of the portraits.

*Sentimental Value:* The Portuguese State of India<sup>4</sup> lasted for 450 years and the miscegenation colonization process, created a specific social identity in the people from those territories, apart from India's society, government and culture. The integration in India of the last territories under Portuguese rule in 1961, caused a great impact in that society, specially to the ones that were born 'Portuguese' and never considered themselves Indians, but Goan, Damanese or Diuan. Still today, nationality and social identity issues are present in those territories, even in the younger generations. This social and cultural minority, among the diverse Indian multiculturalism, still uses civil and religious heritage from Portuguese origin that is nowadays under the custodianship of the government of India (REIS, 2008). For them, this portrait collection isn't considered just another archaeological heritage, but a 'living heritage', a symbol of its cultural identity, as descends from the Rome of the Orient.

*Monetary:* In an open market context, either the collection, or the portraits *per se*, would have monetary value as well as a highly collectable value.

*Associative:* Associative values can be assessed only through further research on authorship, and identification of the portrayed. Regarding authorship, art historians Vítor Serrão and Pedro Dias have already pointed out probable artists, such as Constantino, for the earlier portraits from the XVI<sup>th</sup> century (DIAS, 1998) and Aleixo Godinho for the portraits of the beginning of the XVII<sup>th</sup> century (SERRÃO, 2011), but further archival investigation still needs to be done regarding artists in Goa. Also, it is known that some portraits were made in Lisbon and arrived in Goa along with the new ruler. Associative values can also relate to the cooperation of chronicler Gaspar Correia in the physical description of the portrayed in 1547 and to other later events, such as the signed renovation intervention of Manuel Gomes da Costa in 1893-94, who would become the future President of Portugal during a brief period in 1926.

*Commemorative:* Again, further research should be developed regarding commemorative value. Besides the first and second sequences of portraits, commissioned only by only ruler (D. João de Castro and Fernão Teles de Menezes) to portrait other rulers before them, the common tradition was to order the portrait of the Vice-Roy or Governor before leaving its position. This commission constitutes itself as a commemoration of the portrayed. Some paintings may have an additional commemorative value, such as the one from D. João de Castro which was commissioned to commemorate his victory in the second siege of Diu, in 1547.

*Educational:* Educational value is associated to historical, commemorative and sentimental values. Goa's and other ultramarine territories under Portuguese rule history relates to these characters and the portraits serve as physical testimonies of that past. Besides, the fact that they are displayed together with objects of the 'Portuguese period', and in the core of World Monument Site of Old Goa easily enhances the context and educational value of all objects displayed.

*Rarity:* Rarity value also needs further research, since there exists other portraits of some of the main rulers, but not all of them are accurate or made in the rulers' presence. A survey still needs to be done to identify other portraits or accurate reproductions.

Values assessment is an important exercise when discussing preservation or

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<sup>4</sup> The Portuguese presence in India lasted for 450 years, from 1505 to 1961. It once included the coastal territories from the Malabar Coast until the Bay of Bengal. The territories which still constituted the Portuguese State of India in 1947 were Goa, Daman, Diu, Dadrá and Nagar Aveli which returned to Indian administration in 1961.

conservation goals and the conservator has an important role, due to the fact that conservation intervention does alter the object as well as the values associated with it. Shared analysis and quantification of values will insure that different points of views have been addressed and consensus may be achievable. Then, the conservator may define a conservation methodology that enhances the object's meanings and correct interpretation, assuring first of all an optimal conservation treatment, which respects ethical and deontological conservation directives.

### **3 QUANTIFYING VALUES TOWARDS DECISION-MAKING**

#### **3.1 VALUES ANALYSIS AND CONSERVATION**

Barbara Appelbaum considers that the objects' 'ideal state' (and not authentic state) corresponds to the object's physical state that best embodies the values given by stakeholders and custodians, under the condition that it will have to match one of the object's actual 'historical states'. It involves discussion concerning the object's projected future and, as Muñoz-Viñas had already stressed out, no historical state can be considered more important or the best one. A good starting point will be based on a values analysis that can help clarify meanings and develop a conservation methodology which takes in account not only preservation goals, but also enhance significance and object interpretation, creating a less technical and more accessible approach towards custodians and stakeholders not familiar with conservation-restoration terminology. Nevertheless, we believe an 'ideal state' condition may not always be practically achievable through conservation intervention, mainly due to specific ethical and deontological considerations of the conservator's profession, as well as its vow to long-term preservation. Challenges can arise when defining an achievable treatment goal and the solution may sometimes be found outside the object (through replicas or digital mock-ups). Regarding the Vice-roys gallery, defining an 'ideal state' brings about a great deal of responsibility, so conducting prior radiographic exams will be essential to confirm, foremost, the correct identification of the portrayed and, secondly, the conservation condition of the 'original' or more primitive layer underneath the repaints.

Our first approach may be to consider the 'original state' (the general appearance of the object at the time of its accomplishment) as the ideal state, in order to access the most primitive layers of the portraits that will match documental references. It can turn out that there is little evidence of the primitive layers and that a large area of compensation is required through restoration intervention. Other hypothesis is that later (but of good quality) renovation interventions are in better condition than the underlying layer and still have documental value. In terms of interpretation, the gallery's narrative should have a coherent chronologic construction, so shouldn't the collection share the same 'historical state' in all portraits? Considering 'ideal state' as the original state may be tricky and we should bear in mind that removal of repaints is always an irreversible operation. Could we reproduce this original state in another support with digital technology and keep a 'current state'? How could that work in the exhibition room? As one can understand, a potential conservation process of this collection poses many challenges which are delicate to address. Still, promoting discussion about them is always positive and reflect the idea of change has a part of cultural heritage evolution and universality. Over more, considering this collection as transcultural heritage, a dialogue between both responsible 'cultural communities' which generated and care for it constitutes a UNESCO's fundamental principle internationally accepted. However, any 'negotiation' regarding this collection won't be

easy, especially considering its association with a foreign colonial reference and a cultural minority that may pose some sensitive issues in the political and sociological sphere.

### 3.2 DECISION-MAKING AND DECISION-MAKING TOOLS

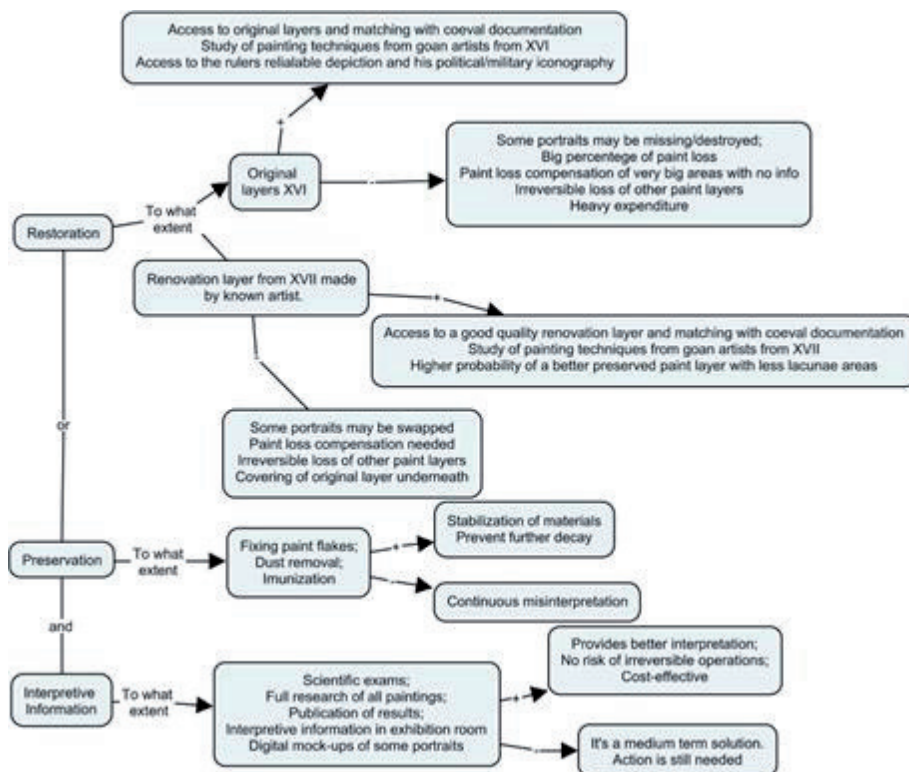
The concept of “sharing conservation decisions”, was first developed by conservator Stephan Michalski in 1992 and has been passed on to conservators and heritage managers by ICCROM courses since 2002. It urged from the need to *‘strengthen further interdisciplinary decision-making in conservation and restoration, to develop common discourses and unifying themes, while recognizing and celebrating approaches and methods, which are rooted in different cultures, [thus improving] conservation decisions by ensuring transparency, traceability, and the effectiveness of the process’* (ICCROM, 2008). Applying this concept in everyday conservation practice has successfully helped conservators develop tools for assessing and surveying different solutions to overcome issues that can rise during an intervention, proving that different options do not imply that each participant is subjective, arbitrary or mistaken (MICHALSKI, ROSSI-DORIA, 2011). We believe that simplifying and laying-out complex issues in decision diagrams and tables, can also be applied to quantification and qualification of values, as well as assessing a conservation methodology in our case-study. These systems could then be used as demonstrative and working tools within discussion platforms and frameworks between representatives of custodians, stakeholders and community and experts regarding possible solutions for these portraits.

**Table 1: Matrix simulation for value-based conservation decisions on the vice-roys gallery**

Possible conservation solutions	Removal of all repaints until primitive layer	Removal of all repaints until best preserved quality layer	Preservation, scientific study and interpretation solutions (display/media)	Do nothing
Values				
<i>Artistic</i>	2	2	0	-1
<i>Aesthetic</i>	1	2	0	-1
<i>Historical/documental</i>	1	1	2	-1
<i>Use/Function</i>	2	2	2	0
<i>Research</i>	1	1	2	-1
<i>Age</i>	0	0	0	0
<i>Sentimental</i>	1	1	1	0
<i>Monetary</i>	2	1	1	-1
<i>Associative</i>	1	1	1	0
<i>Commemorative</i>	1	1	1	0
<i>Educational</i>	1	1	2	-1
<i>Rarity</i>	2	1	1	0
<b>Total</b>	<b>15</b>	<b>14</b>	<b>13</b>	<b>-6</b>

Table 1 simulates quantification of values depending on the conservation solution chosen, in a quantification system which can be easily exposed to a panel or collective of non-conservators, thus promoting objective and constructive discussions of complex issues. It points out, in our point of view, the different expected results from no intervention to full restoration in an immediate way. Of course, each solution could still be divided in several steps and details of its methodology, in order to address traceability and also the classification system can be modified to other mathematical functions that best adapt the needed assessment.

Diagram 1: Decision-tree<sup>5</sup> to complement value assessment matrix table



The biggest advantage, in our opinion, is that compels us to reflect and discuss complex issues in a simple display. The biggest disadvantage may be the lack of specific information, when one values a specific decision ignoring non-specified details, for example, choosing the removal of all repaints can turn out in a collection with few original material, so the final result could imply a great percentage of compensation, which would then compromise interpretation. When the outcome of this type of reflexion is needed, other tools can be used to complement the matrix table such as the 'decision tree', a diagram which helps 'sharing a mental arithmetic and its conversions and weightings as explicitly as possible' (MICHALSKI; ROSSI-DORIA, 2011). These types of diagrams are used to illustrate the path to a final decision, while revealing all the other paths rejects and why, as well as other options not considered at the time. They are not meant to automate decisions, but to help us to think through complex decisions and to share them transparently, giving a sense that the best possible option at the time was taken (MICHALSKI; ROSSI-DORIA, 2011). In this case, we developed a path pointing out advantages and disadvantages of conservation options mentioned in the table and their probable consequences. More captions need to be added regarding interpretation issues or other questions that need to be addressed towards a solution. Probably, after this step, other tables may be needed as well as other decision trees, but the sharing decisions records are kept for reference.

<sup>5</sup> This decision-tree model was developed using Cmap software, available on IHMC Cmap Tools© at <http://cmap.ihmc.us/>

When one needs to find a common terminology to ease communication between people from different areas of expertise, a visual illustration of all reflexions can be a productive tool.

## 4 CONCLUSIONS

Conservation methodology paradigms have changed since Cesare Brandi's *Teoria del Restauro*. The conservator's reflexions concerning heritage conservation and methodologies moved from the studio, to multidisciplinary teams and now to the public and social sphere. Conservator's commitment is not only to heritage, but also to the community who generated it, takes care for it, values it and, ultimately, to mankind, in a universalist meaning of heritage. In that sense, conservation interventions which may lead to a shift in the values related to the cultural identity of that social collective need a different and more democratic approach, which respects uses and functions of the community. If common conservation terminology and methodology isn't explicit to everyone involved, one should find other relatable concepts to work with. Authors mention the importance of recognizing values and meanings towards cultural significance and that conservation's ultimate goal is to assure correct interpretation. Conservator's, by default, will consider more important to preserve and stabilize the tangible aspects of heritage as long as possible and will avoid any solution that questions conservator's code of ethics and universal heritage charters. But, in the end, intangibility does matter, so consensus must be achievable and decisions must be shared, the conservator needs to find tools which allow the collective to understand possible intervention outcomes (under a limited number of reasonable solutions) and be responsible for the consequences of their choices.

In this paper we presented the case-study of the vice-regal portrait gallery and the complex issues regarding a conservation intervention due to number of repaint layers over the original layer, the values associated with both repaint and original layers and the technical requirements of such endeavour. The conservation condition of the original layers may not allow correct interpretation, as well as choosing to preserve a more recent layer or to choose doing nothing. A dialogue should take place between custodians, experts, stakeholders and representatives of the community who still relate to the collection, in order to define cultural significance and correct interpretation, supported by scientific exams and further investigation.

To that end, we present decision-making tools that can help qualify and quantify values in a necessary assessment and analysis, as well as constructing a decision path that includes all possible solutions in an explicit and not subjective way towards the best possible outcome, which takes in account material and non-material dual nature of heritage and the need to reach to a wider range of decision-makers.

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# THE TENTH «SENSE» OF PREVENTIVE CONSERVATION THE INVENTORY AND STUDY OF THE FACULTY OF FINE ARTS OF THE UNIVERSITY OF LISBON COLLECTIONS

Alice Nogueira Alves<sup>1</sup>, Marta Frade<sup>2</sup>

<sup>1</sup> CIEBA/Faculdade de Belas-Artes da Universidade de Lisboa, Largo da Academia Nacional de Belas-Artes, 1249-058 Lisboa, Portugal, e-mail: alicenalves@gmail.com

<sup>2</sup> CIEBA/Faculdade de Belas-Artes da Universidade de Lisboa, Largo da Academia Nacional de Belas-Artes, 1249-058 Lisboa, Portugal, e-mail: martacostafrade@gmail.com

## ABSTRACT

The agent of deterioration known as dissociation has been advocated by Robert Waller since 1994. Following the works of this author, in this text we try to perceive its evolution and implications in the field of Preventive Conservation, as well as its relation with the study and valorization work being developed in the collections of the Faculty of Fine Arts of the University of Lisbon.

Keywords: dissociation / collections / museology / storage / inventory

## 1 INTRODUCTION

In the last three decades, the importance of the immaterial component has been increasing in matters related to heritage and its material manifestations. In fact, today it is certain that the importance of a particular object, or even a building, is attributed by a set of values that are related not only with its creation but also with the way it was interpreted by the various communities responsible for its preservation until the present moment. We have come a long way from the historical and artistic value, previously attributed, to the definition of symbolic value as something arbitrarily identified by a particular community (The Charter of Krakow 2000, LA Torre 2002, Vinas 2005)

Whether their importance derives from their authorship, materials, production techniques, former owners, their existence as a mark in the technological evolution of mankind, or from the simple fact they help us determine a scientific theory, or even a historical and social one, the symbolic objects of a community are chosen due to many aspects that go beyond their matter.

This process is evident when we witness musealization processes. By entering this "world of the chosen", the object acquires a value of representation that exceeds its material component by far. This valuation, which can be carried out in several ways, as some authors have already mentioned (Aires-Barros, 2003; Menezes, 2009), ends up overcoming the very reason for its institutionalization. In fact, an object can be found in a museum due to its value for the definition of a particular national identity, but also due to its artistic attributes. A local person interprets it in a completely different way than an outsider. This multiplicity of viewpoints may complicate not only the process of musealization, but also the way in which this object is displayed, in order to provide information that responds to the demands of the various kinds of museum visitors.

When entering this museological context, the object runs many risks. Preventive Conservation, whose origin begins with the arising of collections, public or private, is



far from being a field born in the end of the 20<sup>th</sup> century. In fact, throughout the 19<sup>th</sup> century, and even earlier, we find many examples that show us this (Historical Perspectives on Preventive Conservation 2013), including at the Royal Academy of Fine Arts in Lisbon (Alves 2014), the predecessor of the institution which we study now.

Normally, when we speak about Preventive Conservation, we are referring to the physical conditions around the object. The nine agents of degradation advanced by the literature in this field, initially proposed by Michalski (1990), are: physical forces, theft and vandalism, fire, water, pests, pollution, light, temperature and relative humidity. As it's evident from this enunciation, they are all linked to the materiality of the object, to its permanence as the support of the message it seeks to convey.

However, its symbolic function in a given context is also extremely relevant, which is why the agent of dissociation has been added to this list. In this case, the goal is to ensure that the information that explains the preservation importance of this object is not lost, as well as the connection between these data and the object. This may seem obvious when analyzed from the point of view of the conditions of incorporation, storage, or even the nature of the collection and its antecedents, but it can be a very problematic issue. The more the collections grow, and the more their dispersion occurs in many rooms or even different buildings, following criteria that are often arbitrary, the greater is the risk of losing this fundamental link to their own justification as museological elements.

On the other hand, the way collections are assembled can also be problematic. In the case of the Faculty of Fine Arts of the University of Lisbon (FBAUL), successor of several institutions that marked the last 180 years of the Portuguese artistic scene, we find a collection of works with the most diverse origins and objectives, from those which came from the convents extinct in the 19<sup>th</sup> century, to those acquired with didactic functions, including the collection of teachers and students' works carried out over the years, among other reasons. This "huddle" of pieces with the most different material and artistic nature constitutes a remarkable collection, which testifies the artistic teaching in the last two centuries, in our country. However, the assembly method was not taken into account, and the acquisition, donation or simple storage was made according to educational needs or fortuitous events related to the life of the institution and the people who came across it over the years.

## **2 THE DISSOCIATION AGENT**

In 1994, at the famous Ottawa conference, considered a turning point in the development and implementation of the Preventive Conservation field (Casanovas 2008, 69-70), Robert Waller, in charge of collections at The Canadian Museum of Nature, presents a proposal for risk assessment, meant to create a quantifiable analysis and prevention methodology. This process was developed over the years, and references appear in several of his publications that can be found on the internet (1994, 1995, 1996, 2002, 2004, 2005, 2016). In his risk assessment proposal, he adds a tenth to the nine agents of deterioration previously identified by Michalski (1990), related to custodial neglect in the management of a collection. Among the main procedures mentioned, he indicates the loss of objects through misplacement, the lack of legal provisions for the acquisition process, the failure to collect information regarding the objects and their effective link with one another, as well as a set of intellectual and legal "shortcuts" that lead to the devaluation of the utility of objects and

their value (Waller 1994, 12). Following the scale of risk types, which are classified in three groups: type 1, catastrophic and rare, type 2, sporadic and intermittent, and type 3, constant and gradual, the author structures these factors in a table. In this illustrative element he divides the custodial neglect into the three types of risk:

Custodial neglect – Type 1 – Collection abandonment

Custodial neglect – Type 2 – Loss of specimens, specimen data, etc.

Custodial neglect – Type 3 – Ongoing failure to ensure ownership, easy access, etc. (Waller 1994, 12)

To justify the presence of these agents of deterioration, he adds to the list of risk factors one that considered by him as quantifiable: probability, extent and susceptibility fraction, the loss in value.

*Loss in value (LV)* is defined as the reduction in the value of a collection for its intended proposes. [...] For the most part [...] the value considered here is related to the utility of the collection. Loss in value is one of the most difficult factors to estimate. It is very dependent on the way collections are used, and on which aspects of specimens contribute to their usefulness. (Waller 1994, 15)

These aspects addressed by Robert Waller show his experience inside a museum, reflecting the management difficulties that a collection carries. More than highlighting the physical factors, directly related to the materiality of the object, the author gives importance to the way the collection fulfills its historical, didactic, scientific, or even aesthetic function, underlining its utility, the ultimate justification of its existence. In order to play this role, the museum must value the access to objects, as well as their effective connection to the existing information (justification of their value), by matching inventory numbers with documentation. Without knowing what gives value to an object, the reason why it belongs to a given collection, this object doesn't fulfill any function, being "forgotten" in the storage, far from everyone. Even if surrounded by the best environmental conditions, the reason for its existence ceases to exist.

In 2003, Robert Waller makes a new contribution to this issue, but now these agents of degradation are already identified as dissociators, since they separate the information from the object, resulting in the loss in value due to lack of identification. This document presents an exemplary diagram, where the specific risk is described, which would be the loss of information on an object (inventory tag), referring to the 3 modes of failure, 8 events that can cause this process, 15 primary causes, 22 secondary and 7 tertiaries (Waller 2003, 105). Only by understanding all these aspects, can one foresee the best way to avoid them in future situations.

The dissociation agent of deterioration is included in the website of the Canadian Institute of Conservation. (Waller, Cato 2016). Following the nine physical agents, this one also deserves its due prominence.

Dissociation results from the natural tendency for ordered systems to fall apart over time. Maintenance processes and other barriers to change are required to prevent this disintegration. Dissociation results in loss of objects, or object-related data, or the ability to retrieve or associate objects and data. (Waller, Cato, 2016)

This agent is now related with the legal, intellectual and / or cultural components of the object, that is, with its immaterial component, being identified by the authors as the metaphysical agent. Obviously, this risk cannot be seen independently because the other nine agents can also contribute to its occurrence, by causing the degradation or disappearance of the elements connecting the object to its documentation, or simply the degradation of the latter.

The authors also point out that the dissociation factor may be related with misinterpretation, ignorance or negligence regarding the value given to the object by a given community. Taking actions that undermine this aspect may lead to the loss of the object's symbolic value.

Since the dissociation of an object can lead to the loss not only of its value, as an individual, but of an entire collection, measures to prevent this type of problem must be taken. In the documentation consulted for the completion of this article, we found a set of points that seem to be fundamental, and to which we add some contributions that have arisen in the context of the work developed in the collections of the FBAUL.

- To ensure legal ownership of the object;
- To promote the link between the documentation and the object by implementing a coherent inventory system for the entire collection;
- To mark the objects permanently, to avoid disappearance or loss of the elements;
- To migrate the information contained in the documentation into new electronic formats;
- To identify the objects in storage and know their exact location;
- To identify the piece and the place where it is stored, to avoid its misplacement, and consequent loss;
- To collect and to join fragments or parts of the same piece that are dispersed, which may be permanently assembled in a conservation and restoration intervention;
- To implement registration systems for each piece, including its movements inside and outside the building;
- To define procedures for the people who interact with the collection;
- To carry out frequent inspections of the collections, confirming the location of the objects and their condition report, as well as the tags or other systems used for marking the inventory number.

The implementation of these procedures should be one of the main steps of Preventive Conservation, to prevent all others from being useless. Without the identification of its immaterial value, the materiality of objects is meaningless in a museological context.

This immaterial component also appears frequently in the documentation that approaches Preventive Conservation. In *The ABC Method – A Risk Management Approach to the Preservation of Cultural Heritage*, published in 2016 by the Canadian Conservation Institute (CCI) and by ICCROM, we observe the issue of loss in value as the consequence or impact of a given event towards the object. There it's defined that «Risk-based decision making is built on the idea that one can use some notion of value to define the goal, and that one can make some kind of rational computation to quantify all the phenomena that jeopardize that goal.». The 10 agents of degradation are also mentioned in this publication, including that of dissociation (Michalski, Pedersoli Jr. 2016).

The object value has become a fundamental point in the discussion of risk assessment, the kind of risk that undermines the conservation of a given object. Here we witness the evolution of the concept of heritage and museological object mentioned before.

### **3 THE CAREFUL PROJECT**

In 2013, a project named CAREFUL – Implementation of a Preventive Conservation Plan in the collections of the Faculty of Fine Arts of the University of Lisbon, was proposed to the Artistic Studies Research Center (CIEBA) (Alves, Frade, Alcobia 2014). Although it was obvious that a great amount of work had already been developed, it lacked a global view of all the institution's collections – a perception of the existing type of pieces and of their quantity. Since the 70's these issues had been considered important, with the organization of several exhibitions where the most valuable pieces were presented, but the systematic inventory, following the recent criteria for this type of procedures, only increased since the last decade of the 20<sup>th</sup> century.

The obvious value given to these collections reflects itself upon the fact that they have remained until today. Their location varied over time: they have been displayed in classrooms to serve as a model for students, scattered along the corridors (where some can still be found today), or kept in storage for their protection from the academic population. Many disappeared or were stolen in times of national political instability, others were ceded to other institutions for room decoration. The collection that we have nowadays, which is a legacy of what remained from the institutions that in the last 180 years preceded the FBAUL, among others, can and should still be valued, through its study and promotion.

The CAREFUL project was intended to carry out a general risk assessment of the storage conditions and disposal, and of the condition report of the collections, as well as of the monument in which they are located. With a hundred-year history, the building where today this Faculty is housed, has undergone several vicissitudes throughout the centuries. The old convent of S. Francisco da Cidade was severely handicapped by various fires and by the 1755 earthquake, which left indelible marks in its structure and materials (Calado 2000). On the other hand, its immensity, occupying a large area in this part of the city, resulted in its division and allocation to different institutions, which often makes it difficult to perceive the spaces and measures necessary for its preservation, as well as the institutional responsibility for the correction of problems and anomalies in contiguous spaces.

At the beginning of this work, we realized that, despite a great deal of research, inventory and storage already started, there was still a lot to be done, especially in terms of inventory, which made it difficult to determine the main risks, essential for the proposal of an integrated Preventive Conservation plan. First of all, it was necessary to know the collection existing in the building, both quantitatively and qualitatively.

### **4 THE INVENTORY AND STUDY OF THE COLLECTIONS**

Although there are records of former inventories of pieces currently existing in the FBAUL, some from the early 20<sup>th</sup> century, following a listing spirit, with a brief identification of objects, only in the last decade of that century inventories of these collections began to be made. These works have already resulted in master's dissertations and doctoral theses. In the first case, we can refer the work of Alberto Faria (2011) dedicated to the collection of old drawings, which later gave rise to the institution's Virtual Museum, and the dissertation of Maria Teresa Madeira (2005), where the author presents the inventory of the collection of antique engraving. Later, it was José Viriato Bernardo (2013) who defended his doctoral thesis, dedicated to the

in-depth study of the collection of plaster sculpture, where hundreds of inventory sheets are presented. More recently, Ricardo Mendonça (2014) deepened the relationship between this collection and the existing documentation in several institutions, managing to establish a history of the pieces. All these studies give the collections a historical and patrimonial value, beyond the material and aesthetic value they already have, not to mention their educational function, which still remains fundamental in the context of this school of arts.

In 2003, a consulting company, Deloitte, was commissioned to do an inventory of the painting collection, which resulted in one additional list with summary information, linking to a photographic survey, which does not cover the entire collection. This work was based on a former survey carried out in 2000 by Alberto Faria. The deepening of the information and the creation of individual inventory sheets, containing the necessary information for the identification of the works, the intersection of existing information in publications and varied documentation, were tasks initiated by Luís Lyster Franco, who proposed a postdoctoral investigation dedicated to this subject (Franco 2014).

Later, in the CAREFUL project context, several works were developed, integrated in master's dissertations, as was the case of Anabela Cardeira (2014), who made an inventory of the collection of loose tiles found in a lost room, or Diana Dinis (2016) who studied the osteological collection, demonstrating the importance of bones in the artistic teaching, and proposing a set of measures that must be taken to ensure their preservation. It should be noted here that this student was responsible for the first reflection on the issue of dissociation in the FBAUL collections context. Also in her master's dissertation, Beatriz Bento presented the *In Situ* project, with the objective of implementing a set of procedures that would create a link between the academic community and the institution's collections, which is currently being applied.

In addition to these academic works, also under the scope of undergraduate subjects, the authors of this article have sought to develop research, inventory and treatment of parts of these collections. In the subjects of Laboratory and Technological Studies of Conservation and Restoration students are asked to do an historic research on a piece of the plaster sculpture collection, to present a condition report, to propose a preventive conservation plan, and to perform its restoration. In the Restoration Practices subject, in addition to the cleaning and conditioning works that have been carried out, and the proposal of several Preventive Conservation plans for the various storages and collections, the inventory of the contemporary tile and ceramic sculpture collections has also been developed.

Along with to the aforementioned theses, others have also been developed, more focused on a particular piece or a small set, where historical and material studies are carried out, with the support of examination and analysis methods, some of them complemented with restoration interventions or preservation proposals, greatly contributing to the deepening of the information on these objects, and on the collections in general.

In all these cases, the search for the piece-related information is critical. When there is not even an inventory number, it's vital to assign it one, and to mark the object with it, to ensure the link between these two elements. Only thus we can protect the information that justifies the immaterial value of the object, the reason why it is part of this collection and why it should be protected for our instruction and enjoyment, as well as for future generations. The marking is performed in a permanent way, not only to avoid the loss of this information, but also to avoid the stealing of isolated elements.

Regarding the storage work, it is already accomplished in several collections, and the method of disposing the pieces is constantly being updated, to ensure an easier access to objects, allowing them to be monitored, loaned to classes – promoting their educational utility, as well as exhibited in or outdoors.

The piece's location is identified in the packaging equipment (suitable for museum pieces). The access to the storage is very restricted, being possible only when accompanied by the person in charge of each collection.

A set of procedures with the aim of moving and displaying the objects in other spaces of this institution, has also already been implemented and is well accepted in its routines. Among other aspects, such as caution in the transportation, handling and display in the rooms, there is also a record of the various events that mark the day-to-day of these storages and their collections. Although these procedures have not yet been applied to all the collections, much work has already been done in this regard.

As FBAUL does not have a gallery or exhibition space exclusively dedicated to these collections, its storages can be visited upon prior request. For this reason, the issue of display is also very relevant, and we always try to avoid the objects' movement on these occasions. The virtual museum allows the availability and sharing of information with the exterior, filling (partially) the lack of a physical space for the collections exhibition.

## 5 FINAL REMARKS

In addition to the necessary care with the external environment in which the objects are found, as well as their disposal and storage conditions, among many other essential factors in Preventive Conservation, if we do not guarantee the connection between an object and the information that justifies its existence, it ends up losing its symbolic value with the passage of time. When new generations no longer have the information about the importance of an object, they end up devaluing it to the detriment of another. In addition, the present case study advocates that the functional appropriation of these pieces has often contributed to their deterioration or even destruction, although this is the main justification for the existence of the FBAUL collection. It is necessary to reinforce the importance of these objects and to pass this information on to the academic community. There are several proposed strategies including the placement of explanatory tables, giving a museological environment to the pieces that are scattered along the corridors. Thus we hope to contribute to a respectful distance between people and sculptures.

Only the study and definition of the value of each object, as well as its promotion and knowledge exchange, can contribute to its preservation and justify the importance of the implementation of a Preventive Conservation Plan at an institutional level.

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# PRACTICAL INTANGIBILITY: THE FORT, THE KING, THE SAINT AND THE ISLANDS

**Jason Bolton**

<sup>1</sup> Bolton Consultancy, Dublin, Ireland, jboltonconservation@gmail.com

## **ABSTRACT**

In Ireland, intangible heritage values influence protection policies and the prioritisation of conservation projects for tangible cultural heritage sites, strengthened by a trend encouraging local communities to become engaged in the preservation and protection of tangible heritage. However, while intangible values present benefits, they can also present significant challenges for scientists and other professional working in the field of cultural heritage. This paper discusses some of the strengths and limitations of intangible heritage values during the planning and implementation of conservation work at three case studies in Ireland - an earthwork fortification; a church, castle and battlefield site; and an offshore island.

Keywords: Fortifications / Island / Conservation plan / Community

## **1 INTRODUCTION**

While Ireland's tangible heritage is well understood, the study and awareness of intangible cultural values is relatively new. For many professionals engaged in the conservation of tangible heritage, much of the literature on intangible heritage is found in unfamiliar disciplines such as sociology and anthropology, and it can be difficult to integrate these discussions into studies of or plans for the conservation of tangible heritage. This paper discusses how the intangible cultural heritage values held by local communities in Ireland have shaped practical conservation work at specific tangible cultural heritage sites- an earthwork artillery fort, a medieval church and battlefield site, and an island containing archaeological remains from the Mesolithic to the nineteenth century.

## **2 INTEGRATING THE TANGIBLE AND INTANGIBLE**

### **2.1 IRELAND'S TANGIBLE AND INTANGIBLE HERITAGE**

Ireland's tangible cultural heritage comprises c.140,000 archaeological monuments, c.39,000 historic buildings, c.15,000 shipwrecks, archaeological objects, gardens and designed landscapes and engineered inland waterways as well as a range of natural heritage categories. Tangible cultural heritage is protected through mechanisms such as legislative protection against inappropriate development and interference, and conservation plans to protect and manage the significance of a place. Intangible heritage, as per the most used definition set by UNESCO (UNESCO, 2003, 2), is manifest in oral traditions, social practices, rituals and festive events which encompass traditions or living expressions inherited from the past, but which also may have an interdependence with tangible cultural and natural heritage. Following Ireland's

ratification of the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage in December 2015, an advisory group drew up an interim National Inventory of Intangible Cultural Heritage in March 2017 proposing a traditional form of music and a traditional sport to be submitted to UNESCO for inclusion on the List of Intangible Heritage. While these two forms of intangible heritage fit comfortably with the expressed intent of the UNESCO list of intangible cultural heritage, they do not reflect the diversity and complexity of intangible values which have emerged as a driver and shaper of conservation projects in Ireland in recent years. These complex intangible values often present benefits, but can also present challenges in integrating these values in a meaningful way when planning the conservation of a historic place.

Public perception of heritage in Ireland has changed in the last twenty years from the preserve of experts, to an approach focused on people and places. This shift began to empower communities to become aware of their heritage as a valuable and significant part of their everyday lives, and then to empower communities to enhance the places where they live, work and socialise - particularly in rural areas where heritage is considered as an asset which can contribute to social and economic well-being, including employment creation. In this matrix, the role of the community is to propose and seek funding for conservation works at archaeological monuments and historic buildings, while the role of the planning authorities is to control what is and what is not permissible, and it is the role of the professional expert to advise and guide the local community to find solutions for individual sites. In this context, a surprisingly wide range of intangible values have become assigned to tangible cultural heritage. By asking, through 'Conservation Plan' methodology (Kerr 1996, Clarke 2001), what we consider culturally significant about a historic place, often surprising intangible values are discovered about why a particular place is considered valuable, which in turn shapes not only how it is understood, but also the intervention and operational practices which are considered appropriate and acceptable at that place.

## 2.2 CASE STUDY 1: THE GREEN FORT

The Green Fort is one of three spear-shaped bastion forts built to protect Sligo on the west coast of Ireland in the seventeenth century. The earthen fort is first shown on a map c.1600 during the Nine Years War c.1594-1603, and then surveyed after the Irish Confederate Wars 1641-53 when Sligo remained an important passage between Ulster and the west of Ireland. Like most forts in times of peace, it fell into disrepair and is shown abandoned in a 1685 illustration, but thereafter became a key element in a network of defensive earthworks built around Sligo during the Williamite Wars 1688-91. After changing hands numerous times during the war, the fort was attacked on the 12th September 1691, causing the defenders to escape by jumping over the parapets and retreating to the relative security of the 'Stone Fort' in the centre of the town. The town was surrendered, the wars coming to an end less than a month later. The fort was described in a ruinous condition by 1739, at which time its military function had been superseded by barracks erected within the town. The fort was never used again, and the place became known as Forthill, used as pasture and acting as a viewpoint for painters and early photographers in the nineteenth century capturing views of the surrounding picturesque landscape framed by a table mountain, an ancient queen's tomb on a hilltop, and a river which snaked out into the Atlantic ocean. However, the fort itself was almost forgotten until the early 1980s when the development of the adjacent hospital led the National Monuments Service to place a 'preservation order' on the then newly-listed archaeological monument to protect it from destruction. A preservation order is the highest level of legislative protection for an archaeological

monument in Ireland, and used only where there is a direct threat of destruction. This resulted in the local community equating the level of legislative protection for the earthwork monument with its perceived level of cultural heritage value.

By 2001, the perceived value of the fort as a heritage/tourism asset for the town had gained such momentum that a plan was proposed to develop and rebuild the fort as an archaeological tourism attraction for the town. A documentary film made in 2005 reflects the uncertainty over the place: "There exists the idea that the Greenfort is a place of importance without always knowing why. It has become a place where people's imaginations are loosened and different stories unfold across its grassy height" (Weir 2005). The Green Fort became synonymous with a sense of a glorious past, and an opportunity to build pride of place, to create employment and to increase tourism by attracting large numbers of visitors to the fort as a valuable archaeological site and as a viewing point for the surrounding landscape. However, there are sometimes difficult questions to ask when intangible values are assigned to tangible heritage. What happens when the intangible values created by a local community over time are factually incorrect?

The Green Fort was not a great fortress. It was a temporary small earthwork sconce or fort, built in haste at a time of crisis, and manned twice more during periods of conflict in the seventeenth century, and then abandoned and arguably largely forgotten. It was also not fit for purpose, the fort, its surrounding earthwork entrenchments, and the town itself was over-run in less than sixty minutes, with the garrison of the Green Fort jumping from the parapets to flee to the stronger stone fort in the town (Childs 2008, 170). It became commonplace in recent years to interweave the history of the fort with the later eighteenth and nineteenth century garrisons of the town, as if it were part of a seamless military history of the place. The argument runs "there was always the potential for it to be re-used as a fort". But from a professional perspective, there is no documentary or other evidence to suggest such a link. An entirely different military force garrisons the town fifty years after the fort was abandoned for the last time at the end of the seventeenth century. Though the state authorities have made it clear that conjectural reconstruction of archaeological monuments contravenes current national conservation policies, and that the preservation order prohibits any such work being undertaken, a plan is currently under discussion to explore options to develop the heritage potential of the Green Fort due to local political pressure. Intangibility matters, but it is not necessarily rational, and so we must be critically aware of the potential to misinterpret intangible values, and consequently not clearly understand the value of tangible heritage. In this case, intangible values are deeply embedded in what would otherwise be a minor monument of no special tangible value, and these values have created both a vision for the place as a tourism attraction, and momentum to develop a plan for the conservation of the place. Over the last 35 years, a new series of beliefs have arisen where the fort was always both a place of military significance but also an isolated place commanding and overlooking the area. Without really knowing why, the local community have created intangible values which they now recognise as an integral part of the cultural heritage of the fort, and now wish the tangible heritage to be restored following intervention methodologies and operational practices bound and shaped by these intangible aspects. The role for scientists and other professional working with tangible heritage may sometimes be to challenge intangible cultural heritage values where they are based on incorrect assumptions, especially where incorrect information may lead to misallocation of resources and the misuse of historic places.

### 2.3 CASE STUDY 2: THE HIGH KING AND THE SAINT

Intangible values also form part of the living traditions which care for and maintain historic places. Where they survive, traditions such as devotional practice can add layers of significance to the historical and archaeological value of a place. More importantly perhaps, the intangible values which underpin these traditions can result not only in active regular maintenance of tangible cultural heritage, but also result in communities organising to fund essential conservation works.

Strong traditions of veneration survive at Faughart on the border between the Republic of Ireland and Northern Ireland. The hill of Faughart commands the passes between the Fewes mountains, which historically formed the border between Leinster and the kingdom of Ulster. Faughart has very strong historical associations. It is the reputed birthplace of Saint Brigid (c.451-523AD) one of the patron saints of Ireland, and is also the location of the Battle of Faughart when on the 14th October 1318 the 'last high king of Ireland' Edward Bruce died. In addition, the placename has been linked to the most famous tale in early Irish mythology the Tain Bo Cualinge and the mythological hero Cú Chulainn. The local community have a very strong sense of pride of place about the hill, its castle but most importantly for them, it's graveyard and its association with Saint Brigid.

There are many places in Ireland where history, archaeology and mythology meet. These tend to be large complex multi-period sites with substantial archaeological and/or architectural monuments. Consequently, the antiquity, aesthetics and character of the tangible cultural heritage is highly visible, and the intangible heritage values often seem an addendum to the cultural value of the place. At Faughart, the opposite is true, as its intangible cultural heritage is arguably of far greater significant than the tangible heritage which has survived. The earthwork 'motte' castle is small, and one of nearly 500 examples in Ireland, while the ruined and overgrown nave-and-chancel church is one of over 4700 churches in Ireland. While cropmarks indicate substantial below-ground archaeology, the visible above-ground tangible remains within the oval ecclesiastical stone-walled enclosure are limited to the church, some earthen and masonry features such as the base of a medieval high cross, the grave of the high king Edward Bruce, and a collection of eighteenth and nineteenth century stone grave-slabs. Veneration of Saint Brigid is still very strong in the area, and the grotto, shrine and stations of the cross continue to attract numerous visitors to offer penance, carry out devotions and seek cures. Through this devotional and ritual practice, the place has become a meeting-place of history, mythology, religion and ritual, and so its intangible significance arguably far out-weighs that of the standing ruined monuments.

The graveyard, like many in Ireland, is in local authority ownership, but much of the maintenance work is undertaken by the local community whose relatives are buried within the graveyard, and who remain active in their veneration of Saint Brigid. The intangible cultural heritage values of Faughart have shaped their maintenance of the graveyard, as the local community maintain the grounds and vegetation on a voluntary basis, while they campaign the local authority and funding bodies for both conservation works and for interpretation or enhancement of the site. The significance of the rich historical background and the archaeological monuments within the graveyard and in the immediate vicinity are not immediately obvious to any visitors to the site. Given the proximity to the seven hundred year (1318-2018) anniversary of the Battle of Faughart and the death of Edward Bruce, last high king of Ireland, the local community campaigned successfully to gain funds for a conservation management plan. This has allowed them to meet all legislative requirements, to plan essential repairs and also to prepare interpretation for the 2018 anniversary.

The key point in this case study is that from an archaeological perspective, the tangible heritage would not have been prioritised for conservation and repair on its own merits. There are too many other similar monuments, and better examples of these types which also require repair. The historical interest of the place is noteworthy, but historical events have happened at many places. The call to action, the driver for conservation works, was the intangible values the local community have developed over generations at Faughart. The local devotional practices and the communities strong belief in the association with Saint Brigid has impelled to cherish and maintain what would otherwise be an unremarkable place. In this case, intangibility matters, as without the efforts of the local community and what they considered significant and of value, the church and its ruins would have collapsed within a few short years.

## **2.4 CASE STUDY 3: DALKEY ISLAND**

Intangible heritage also reflects how local communities have come to understand and appreciate a place over time. In this case, public access to a small group of islands in Dublin Bay during the course of the twentieth century led to the public adoption of the Dalkey Islands as an isolated place, but also communal property, and an important public amenity for the public. Despite expert pressure to prevent or severely limit public access to a place with arguably the highest level of archaeological and natural heritage value in Dublin, the intangible heritage values of the place explored through the conservation plan process to determine the most appropriate future for the islands necessitated that public access be maintained and encouraged, but in a manner that the character of the place could be protected.

The Dalkey Islands comprise three uninhabited islands in Dublin Bay on the east coast of Ireland with significant ecological, archaeological, architectural and cultural heritage, the most visible components of which are the tenth century stone church and the early nineteenth century fortifications (a Martello Tower and Battery) which dominate the main island. In addition to the standing monuments, the islands which contain significant below-ground archaeological remains from the Mesolithic to the medieval period, important Iron Age and early medieval monuments, and protected birds and marine mammals which provide the strongest legal protection for the islands. The aim of this case study is to summarise the 7 year journey from developing a draft management plan, to achieving consensus among the diverse stakeholders on how and what should be protected and improved, to the adoption of a conservation plan in 2014 by local government to commit the resources to manage and protect the islands including actions for the conservation of the tangible cultural heritage of the islands, and how the intangible values acted as a vital tool in determining how the islands were to be accessed and how the character of the place was to be retained while facilitating public access.

The islands have been under local authority ownership and management since 1913, and act as one of the 18 public parks in its jurisdiction. The islands were designated a Special Protection Area (SPA) due to the presence of roséate, arctic and common tern, a Special Area of Conservation (SAC) due to the presence of harbour porpoise, and a Zone of Archaeological Potential with a number of known monuments and shipwrecks. The known archaeological remains on the site include Mesolithic and Neolithic shell middens, a promontory fort, a Roman period trading emporium, an early medieval church, quarry, crosses and field system, a holy well and post-medieval fortifications. There are historical records of the islands acting as both a refuge and a slave emporium for Viking period Dublin and there are significant buried archaeological

remains (Liversage 1968). The sound between the islands and the mainland once acted as one of the medieval ports of Dublin, and there are a number of historic shipwrecks in the area. The land was in ecclesiastical ownership from the early medieval period until 1804 when it passed into military ownership. The islands were purchased by the local authority in 1913 and have acted as a public park for over 100 years. The consequent lack of development and isolation of the islands, though in close proximity to the capital city of Dublin means that its archaeological heritage is especially valuable due to the lack of disturbance.

A conservation plan was developed which identified the vulnerabilities of the islands and established policies and actions which would preserve the place into the future (Carey & Bolton 2014). The key vulnerability of the islands was the condition of the boat harbour which did not allow safe boat access onto the islands, and this was a primary obstacle to enabling repairs and ongoing maintenance works to the fortifications and the church, and also allowing safe visitor access. The sense of isolation experienced by people visiting the islands is a defining but intangible characteristic of the islands, and it would be necessary to monitor visitor numbers to the islands to understand how to manage this aspect of the islands. While there had been a great deal of research on the islands, little was publicly available leading to under-appreciation of the heritage of the place. There was also a lack of methodical inspection and management of the islands, which left the fortifications and the church particularly vulnerable. At the outset of the project, different stakeholders had very different aspirations for the islands – as a bird sanctuary, as a potential local tourism attraction, and there were debates over how or even if safe public access to the islands should be permitted, and if the islands would become overgrown by vegetation if the grazers were removed. From an engineering perspective, providing safe access at the boat harbour was the key priority, especially as the local community had developed strong positive feelings towards the islands over the previous 100 years of public access. However, there was significant pressure from professionals to prohibit public access to the islands in order to encourage the breeding of vulnerable bird species. In this context of competing heritage and management issues and to integrate the complex needs of the islands, a conservation plan (Clarke, 2001; Kerr, 2013) was developed between 2012 and 2014 by the local authority with the assistance of a steering committee representing the various stakeholders. Using this process, the intention was to reach agreement on the significance and vulnerabilities of the place, and to move forward to establishing policies and management actions to provide regular safe access to the islands and establish a programme of conservation, repair and presentation of the heritage including the fortifications.

A key element in the conservation plan process is the assessment of significance which defines the aesthetic, historic, scientific or social values of a place for past, present or future generations. This encompassed the tangible cultural heritage and the natural heritage, but also highlighted previously unconsidered intangible aspects to the Dalkey Islands. The two key elements of the islands intangible cultural heritage was its sense as a wild and isolated but also living island, and strong social memories of the islands which had developed through the course of the twentieth century. The significances of the islands were identified under seven broad headings:

- A wild and isolated place.
- An island of green and grey.
- A living island.

- Uses and associations.
- The church and the tower.
- Port and seaway.
- Social memories of the islands.

While there is a certain amount of overlap between some of these headings, two in particular reflected intangible cultural heritage values associated with the islands.

- A wild and isolated place: The Dalkey Islands paradoxically remained accessible yet also retained a sense of wildness and isolation throughout living memory. Visitors are often struck at how the place 'feels' akin to an island on the west coast despite its proximity to a capital city, while scholars similarly refer to the islands as a 'liminal place' that is apart from, yet intimately connected with, life on the mainland. This wild and isolated character is particularly significant. While it is by no means unique in Ireland, it is unusual in its location on the shores of a major city and the fact that it is a public space, rather than private property.
- Social memories of the islands: When the islands passed into local authority ownership in the early twentieth century, they became a well-known local public amenity. An informal small boat ferry service developed between Coliemore Harbour and the boat harbour on Dalkey Island, and the islands have also been accessible to private boat owners, sporting clubs and associations, snorkelers and kayakers. Relatively low visitor numbers have been a long-standing characteristic of the islands, though historically very large crowds took part in the annual crowning of the mock 'King of Dalkey' in the eighteenth and again in the twentieth century. The Dalkey Islands have played an important role in the social and cultural life of people in the county, and form a repository of social memory of people visiting, using and having access to the islands.

The conservation plan process also explored the many vulnerabilities of the heritage of the islands (Bolton 2014), however, it was clear that the intangible cultural values which had developed through public access to the place during the twentieth century had important benefits for local social cohesion and appreciation of the cultural heritage, and that public access was necessary so that the island would continue to function as a 'living island'. The consequent vision for the future of the islands comprised a commitment from the local authority to manage the islands as a unique heritage asset, and to safeguard, preserve, maintain and promote awareness of and facilitate appropriate access to the cultural and natural heritage of the islands. In the end, it was possible to accommodate tangible, intangible and natural heritage values within the policies for the management of the islands:

- Policy 8: DLR to acknowledge that the islands' heritage is composed of multiple strands and that different components of its heritage may have competing or conflicting needs.
- Policy 9: Acknowledge that human understanding, desires and aspirations for the present and future of the islands arise from social engagement with the islands and that the islands contribute to the quality of life of those who live in, work as well as visit the area.

To date, the conservation plan has been formally adopted by the local authority and published (Bolton & Carey 2014) publicly setting out the plan for the islands over the next decade. Once the draft conservation plan was in place in 2013, actions began to



flow. Engineering repairs were completed in early 2014 to the boat harbour to allow safe access onto the islands, and a small boat ferry service was put in place to provide public access to the islands. The intangible values of the island as a wild and isolated place guided decisions not to provide pathways or any facilities on the islands, and to consciously accept that not all historic places could provide universal access without detracting from the character and significance of the place.

### 3 CONCLUSIONS

In conclusion, this small sample of conservation projects in Ireland indicates that intangible heritage values are commonly inextricably linked with contemporary awareness and appreciation of tangible cultural heritage, and that these intangible values matter in that they impact on protection policies, the definition of priorities for and the uses of cultural heritage sites. However, intangible cultural heritage values are not always beneficial. The language and conceptual models used to communicate intangible heritage values can be very different from those used by professionals engaged in the conservation of tangible cultural heritage, and there is a risk of impenetrable language, and of simple misunderstandings. Intangible values do present benefits, but there must continue to be a critical awareness that these values can also be flawed and /or factually incorrect, and that because these values are part of a living heritage, they may change in the future. It is therefore essential that the values ascribed to a place, whether they be tangible or intangible, be clearly communicated and discussed. If intangibility is to matter, its strengths and its limitations need to be robustly debated, as the interventions and conservation decisions they shape affect how we preserve our cultural heritage.

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# QUESTIONING THE “BOTTOM-UP” CONCEPT IN THE CULTURAL HERITAGE STUDY AND SAFEGUARD. IS THIS A CONDESCENDING OR EVEN DISCRIMINATORY TERM?

**Filomena Sousa**

Memória Imaterial (MI)/Instituto de Estudos da Literatura e Tradição (IELT/FCSH-NOVA), Avenida de Berna, 26 C, 1069-061 Lisboa, Portugal, e-mail: memoriaimaterial@gmail.com

## ABSTRACT<sup>†</sup>

Concerning how should local actors be understood in relation to patrimonialization processes (tangible, intangible, natural) the “bottom-up model” is often referred as ideal because it values communities’ interests, decisions and solutions. But in this presentation I will question the “bottom-up” concept thus fostering the existence of a structured and hierarchical system. One could argue that the term “up” do not imply an absolute hierarchy, a pejorative, condescending or even discriminatory value, and that the “bottom-up” model defends, above all, the need to reverse the process and the idea that democracy is only truly implemented if starting from the bases. To this argument I reply that concepts must not create misunderstandings, and I stress the need to balance the powers evenly. How can we explain the “bottom-up model” to the communities without the idea of hierarchy and that they are in the “bottom”? If we try to explain some terms to Intangible Cultural Heritage (ICH) practitioners and they seem inadequate, are they the right concepts?

Are we using academic terms without truly questioning them? In a Sustainable Research, we can’t do this. We must be questioning them with every single social actor.

Keywords: Intangible / bottom-up / emic / Cultural Heritage

## 1 INTRODUCTION

The Intangible Cultural Heritage legal regime assigns a key role in the transmission and safeguarding of intangible culture to the involvement and participation of those who “create, maintain and transmit such heritage” (UNESCO, 2003, art. 15). It is stressed, for each line of action, the need to use participatory and democratic community intervention methodologies in which the role of social actors is predominant.

According to the 2003 Convention directives, those who produce ICH should not be understood as “passive informants”, spectators or beneficiaries of patrimonialization.

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The cultural expressions' producers are the active agents of these processes in collaboration with the local/regional administration and the academia. In turn, administrative institutions and scientific and/or heritage organisations (museums, archives, research centres, etc.) are instructed to act in a spirit of collaboration, mediation, "negotiation" with the local communities; as supporting agents and not in a logic of owning the "exclusivity" or "authority" over the process (Costa, 2013).

It is also in this perspective that the concept of "heritage community" is defined in the Council of Europe Framework Convention on the Value of Cultural Heritage for Society, known as the Faro Convention (2005, ratified in Portugal in 2008): "a heritage community consists of people who value specific aspects of cultural heritage which they wish, within the framework of public action, to sustain and transmit to future generations" (COE, 2005, point (b) of art. 2).

As researcher in a NGO – *Memória Imaterial* –, the institution that runs the MEMORIAMEDIA "e-Museum of the Intangible Cultural Heritage", in Portugal, and to better explain why I question the use of the term "bottom-up", I will share an episode I experienced which made me question the use of this concept. One episode that made me think how we, academics, use terms without truly questioning them and when we try to explain them to ICH practitioners, they are inadequate, "perverting" the sense we wish to give to our actions.

*Memória Imaterial* is a NGO accredited by the UNESCO Intergovernmental Committee for the Safeguarding of ICH UNESCO since 2014, and is responsible for the management of the MEMORIAMEDIA project (hosted by Institute for Studies of Literature and Tradition - New University of Lisbon). This project began in 2006 and has as main goals: the research, inventory, safeguarding and dissemination of the different ICH domains.

The project thus adopts the spirit and guidelines of the UNESCO Convention (2003) and assumes that ICH is the cultural manifestations that local communities identify and value as such, taking into account that these expressions are (Bortolotto, 2011):

- Transmitted from generation to generation;
- Practised nowadays – they are not mere representations of cultural practices that no longer exist or that have become decontextualized, institutionalized or manipulated for mercantilist, political or other interests;
- Manifestations that become transformed "with and in the time" – relating themselves with supra-local contexts of mobility and the flow of people, goods and knowledge;
- ICH is related to tangible, immovable and natural heritage (holistic approach based on the support of a sustainable development where ICH cannot be culturally decontextualized from any of these dimensions).

When the communities request the NGO collaboration they need technical and scientific support and, for do that work, *Memória Imaterial* tries to promote "Sustainable and Responsible Research". That implies that societal actors (researchers, practitioners, citizens, NGOs, etc.) work together in order to better align the process with the needs of society. To do that the concepts that we work, the language, must be the same for everyone. But it's not always like that.

When experts refer the "bottom-up model" they hardly moved away from a structured and hierarchical system arranged into two different levels of power – a higher level that

is "on top" and a lower level, which is "below". How can we explain the "bottom-up model" to the communities without the idea of hierarchy? How can we do that without bearing in mind that when we talk about who is "at the bottom" we usually mean communities? If the citizens' decision is equally or more important than the rulers' decision, why should we value them at the bottom?

## **2 LOCAL COMMUNITIES AND INTANGIBLE CULTURAL HERITAGE**

Safeguarding duties are thus considered in the light of the right to freedom of practitioners. Accordingly, they may refuse the patrimonialization process and, as a result, the extinction of an element "by the will of its practitioners or in the absence of consent for its safeguarding" becomes legitimate (Claro, 2009: 151).

The Convention is, however, controversial regarding who is entitled to decide on the future of intangible expressions. On the one hand it defines ICH as the "living" practices, created and produced by people who may authorize, or not, its transmission and/or patrimonialization, on the other hand, if an element is in danger of disappearing, the Convention places it under a regime of urgent safeguarding which implies a joint activity between producers and specialized agents, scientifically and technically informed (Costa, 2008). The information on who should decide whether an element needs revitalization actions or not is not clear nor free from interpretations.

The question becomes even more complex if we consider the constant replacement of the individuals or collective agents that produce cultural expressions. According to Leal, a ICH manifestation, "in addition to its actors in the present, had other actors in the past and will certainly have other actors in the future. From year to year, it is just by an optical illusion that one can presume that the feast is the same: the script may on the whole be similar but the enactment is different. The actors are different, their interpretation of the script is different, their intonation, their style, is different" (2013: 140). So how can one generation or the producers of a certain practice, in a given year, have legitimacy to come to the decision of ending it?

The definitions of community and heritage community, as well as the legitimacy of those communities to decide the future of intangible cultural practices poses another question: are we not inadvertently considering communities as homogeneous organizations, "naturally" constituted and unified in their origin, in their evolution or in their decisions?

Communities as social, cultural, economic and political systems are complex and heterogeneous organizations comprising different strengths and different interests. Communities are subject to a particular distribution of power and "a process of assigning heritage value based on internal and subjective criteria becomes easily manipulated by actors who occupy key positions within the community" (Bortolotto, 2011: 15).

The image that communities give of themselves are constructions that highlight consensus and cover up internal conflicts. Since patrimonialization is a mechanism of a group's identity legitimation one should not simplify or define a superficial and idealized concept of community. It is important to be aware that this process will entail tensions, assertions of power, dialectics, conflicts and negotiations within communities (Pereiro, 2006).

For this reason, it is important to be vigilant and notice if in the patrimonialization process, taking into account the difficulty in managing the interaction between holism and individualism, the collective subjects' participation and the so called empowerment strategies are not being simulated or associated with spokespeople who, without being authorized to do so, speak on behalf of the communities (Leal, 2013).

Another aspect to highlight is the fact that the ICH concept was fostered by national and supranational governmental institutions that defined what "regulates" intangible cultural elements' patrimonialization processes and proclaimed the need for the direct participation of civil society in these processes (Leal, 2013). Through an etic procedure, these institutions defined the programmes and legal instruments for the safeguarding of ICH, i.e., this process was not born out of populations' claims or out of their democratic participation in these decisions.

According to Bortolotto, we find ourselves today before the first safeguarding programs that "bear the difficult task of moving forward in a precarious balance, facilitating the direct participation of civil society in cultural policymaking and at the same time avoiding potential manipulations of their relativists derivations" (2011: 15). Therefore, to put into practice the Convention's directives is to face real challenges, is moving in a reflective stance that ponders on how communities live, manage, enhance and safeguard their cultural expressions and in what way can they be supported by technical, administrative and academic institutions.

## 2.1 LOCAL COMMUNITIES AND THE MEMORIAMEDIA PROJECT

Concerning how should local actors be understood in relation to patrimonialization processes, we agree with the *emic* approach. On the subject of the bottom-up model, often referred to as ideal because it values communities' interests, decisions and solutions, we believe, however, that it leads to a structured and hierarchical system arranged into two different levels of power – a higher level that is "on top" and a lower level, which is "below" – thus fostering the existence of subordinates or situations where the final decision will ultimately be, inevitably, at the "top". We thus prefer not to use the bottom-up concept.

One could argue that the terms "down" and "up" do not imply an absolute hierarchy, a pejorative, condescending or even discriminatory value, and that the bottom-up model defends, above all, the need to reverse the process and the idea that democracy is only truly implemented if starting from the bases. To this argument we reply that concepts must not create misunderstandings, and we stress the need to balance the powers evenly.

To better explain this position, I share an episode I experienced in Elvas which made me question the use of these terms.

As stated previously, the communities that successfully start the identification phase often require support, technical and scientific guidance and capacity-building regarding ICH inventorying processes. MEMORIAMEDIA has been sought as a viable response to this need. This is what happened with the ICH inventorying process in Elvas.

The project started from the initiative of Elvas City Hall and, when this body requested Memória Imaterial collaboration, the cultural expressions to be addressed had already been identified. A team of City Hall technicians conducted a first survey by applying a questionnaire to the community and its representatives - parishes, informal groups and local associations/organizations, which allowed the population to identify the elements

they considered to be representative of local intangible cultural heritage and that therefore should be inventoried, studied and safeguarded.

After the first contact with the City Hall team we suggested that a work plan would be presented to us (during a meeting) with the description of the ICH elements to be addressed; its creators, producers and transmitters; the most striking moments; the timing and expectations in relation to the work to be carried out. In fact, whenever a project team is interested in taking part in the submitted plan, we agree to collaborate with the promoter. The criteria we use in evaluating this interest are usually the following:

- The plan fits the spirit of the Convention;
- It shows cultural/anthropological/ethnographic relevance;
- The ICH bearers and practitioners are accessible and authorise the inventorying process;
- We can count on the collaboration of mediators/community representatives that put us in touch with the bearers and practitioners. These are museum or libraries professionals, members of local associations, heritage protection associations, anthropologists and others who know the field and have already worked with the community;
- Documentation is available.

Regarding the work accomplished in Elvas, which lasted a year, the MEMORIAMEDIA team worked with the City Hall team and with more than 100 people who were directly involved in the creation, production and transmission of cultural manifestations in several localities in the municipality. Currently, 15 cultural expressions in different domains are inventoried - cyclical events, most of which follow festivities and agricultural calendars:

- In the "know-how" domain (arts and crafts) – tannery, leather and cork works from Terrugem; the ronca from Elvas; sweet plums from Elvas; the sericaia and cookies of S. Sebastião;
- In the "Celebrations" domain (religious processions and pilgrimages) – Procissão dos Passos in Vila Boim; Procissão dos Ramos in Vila Boim; Enterro do Senhor in Vila Boim; Procissão do Mandato in Elvas; Procissão of S. Sebastião in Barbacena; Aleluias in Terrugem; Procissão of Pendões in Elvas; Romarias in Elvas and Romarias in Vila Boim;
- Oral Expressions (songs): Cantar dos Reis in Barbacena.

The project was developed in collaboration with the practitioners of cultural expressions during several phases: planning, study and collection of documentation, audiovisual register, presentation and discussion of final results, and public presentation. In these phases, carried out in different periods - before, during and after the cultural practices - the population and, in particular, the practitioners of cultural expressions, guided the team in accomplishing the field work. To be precise, they were treated as co-authors of the study and the inventory recording. The objectives of the work were previously established in partnership with representatives of the communities; it was the practitioners that involved in the project other people relevant to the production of cultural expressions; it was them who signalled the moments, details, locations and chronology of the events/processes; who facilitated the access to documentation; who identified objects and built or natural spaces associated with the

events; who indicated the environments - the conditions of more or less intimacy in which the various moments of the practices were performed, thus influencing the way they were recorded; who shared the meanings they gave to the cultural expressions; the memories, the episodes they considered most relevant, historical facts and their expectations regarding the future of the practices; they were the ones who authorized the presence of the team, the inventorying and the registration of the ICH practices.

The research technique most commonly used to approach the community was non-participant observation, during which we followed the instructions of local agents and registered their practices. During interviews we used non-directive techniques, without predefined scripts and following the chronology, the direction and contents shared by the interviewees.

Once the ICH manifestations and all the tasks related to its organisation were finished, and before publishing the inventory, in a second moment of the project we met again with the community representatives to present the results achieved (contextualization articles, the database, photographic records and documentary videos). This moment was useful to avoid any inaccuracies, to confirm the names of participants and the vocabulary associated with the intangible and tangible heritage, as well as to correct some chronological inconsistencies. To date, no awkward situations arise due of representatives or communities wishing to censor or manipulate the results.

In this session, the results from the collaboration between the research teams and the ICH practitioners were returned to the population. Community representatives expressed their feelings and the inventory's website and a documentary of about 40 minutes that summarized the recorded ICH manifestations were both presented. The session was also useful because the population could comment on the work we had done, which allowed us to see if they agreed with the project's results and whether the cultural practices study and inventory were validated by them, thus making it possible to proclaim the project as a shared responsibility among researchers, local government, other bodies representing the community and practitioners. The population was confronted with its own image, with the way it preserves and gives life to intangible culture; that is, the session became a moment that belonged to the community itself.

At this meeting with more than 100 people I enthusiastically congratulated the municipality and the population for having identified the ICH manifestations they wished to be inventoried and for having decided how to organise that inventory - and only afterwards having required our services. I congratulated them for spontaneously having followed UNESCO recommendations, that is, for having adopted a bottom-up approach: an approach from the "bottom to the top", from the community to the experts or to the academia. As soon as I said this, I realized that I had committed a faux pas, since I was literally saying that the community was "below" us, the experts. It was not what I meant, but it was what I had just said. I think that at the time I managed to get around the issue and the audience was not offended by my words, but this episode made me think how we, academics, use terms without truly questioning them and when we sometimes try to explain them to ICH practitioners, they are inadequate and "treacherous", "perverting" the sense we wish to give our actions.

How can we explain the bottom-up model to the communities without the idea of hierarchy lying behind? On the one hand, there seems to be no way of addressing the bottom-up model together with the ICH practitioners, without bearing in mind that when we talk about who is "at the bottom" we usually mean communities, groups or individuals. In the case of ICH, we refer to those who are actually involved in valuing

and safeguarding cultural heritage, of those who offer their knowledge and their time in support of culture and the collective.

On the other hand, If the citizens' decision is equally or more important than the rulers' decision, why shouldn't we value them at the same level? Or why shouldn't we place communities and citizens at a higher level, "above" the Central Government, those who, mandated by voters, have the mission of defending the interests and improving the living conditions of the first?

Between bottom-up and top-down, several authors began to support a meso-level, where the relations between the local/micro and the global/macro becomes intensified:

"(...) on the one hand, the literature on local and regional development has developed sound 'meso-level' analytical tools which combine inductive and deductive perspectives on local and regional development dynamics. On the other, the macro-economic approach to development has made significant steps towards becoming more open to inductive reasoning and, hence, to the consideration of local specificities" (Crescenzi e Rodríguez-Pose, 2011: 3).

However, we prefer to use the *emic* concept, disseminating the idea that the intangible culture patrimonialization process should respect and value the interpretation of those who are directly involved in the production of cultural expressions, and that their voices are more important than the activities or involvement of foreign agents. It is among the people belonging to communities that a specific cultural element is self-perpetuated, extinguishes itself or is revitalized.

### 3 CONCLUSIONS

Communities are the true bearers of ICH and many Portuguese cultural expressions have been transmitted from generation to generation over tens or hundreds of years, regardless of whether safeguarding policies exist or not. The transmission of knowledge is an action that communities decide to maintain or extinguish, and when they keep it, they garnish it with what they consider to be the tradition, the symbolic, but also the change, the hybridism and the adaptation to new contexts and new actors. That is to say, the last word and the decision about what intangible cultural heritage is, and how should it be valued and safeguarded, belongs to local communities.

One of the roles allocated to non-governmental organizations working in the field of intangible cultural heritage is the decoding of the Convention Directives for the benefit of social actors. Since the programs and the national and international legal instruments for the safeguarding of ICH were designed by experts, academics and governmental institutions (without discussion or local public participation), NGOs appear in the framework of the Convention's implementation as mediating organizations that strive to explain the academic and legal language to ICH practitioners at the local level. As regards this task, which is not always easy, we feel that the NGO responsible for the project MEMORIAMEDIA – Memória Imaterial (Intangible Memory) – should reflect on these situations as it experiences difficulties or finds inconsistencies between the theoretical or political discourse and the real possibilities of implementing the Convention, and adopt the vocabulary that, in practice, better corresponds to the purpose of promoting and safeguarding ICH.



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# INTRODUCING THE HERITAGE VALUE MATRIX: CONNECTING MATTER AND MEANING IN BUILT HERITAGE

**Nicholas Clarke<sup>1</sup>, Marieke Kuipers<sup>2</sup>**

<sup>1</sup> Faculty of Architecture, Delft University of Technology, Juliana Avenue 134, 2628 BL, the Netherlands and Department of Architecture, University of Pretoria, Lynnwood Road, Pretoria, 002, South Africa, e-mail: n.j.clarke@tudelft.nl

<sup>2</sup> Faculty of Architecture, Delft University of Technology, Juliana Avenue 134, 2628 BL, the Netherlands and Cultural Heritage Agency of the Netherlands, Smallepad 5, 3811 MG Amersfoort, the Netherlands, email: m.c.kuipers@tudelft.nl

## **ABSTRACT**

Educating heritage architects requires not only a thorough knowledge of extant built fabric and the methodologies for repair (tangible), but also understanding of intangible values and their relationship to the tangible, in short relating matter to meaning. To this aim a Heritage Value Matrix has been developed as a graphic mapping, analysis and evaluation tool. This has been tested through application in education practice and is presented in this paper.

Keywords: Intangible values / Built heritage fabric / Value assessment / Education

## **1 INTRODUCTION**

In the field of built heritage management, the conservation of tangible heritage is essential to the maintenance of intangible cultural-historical values. The application of intangible values in built heritage is complicated not only by the fact that buildings are inseparable from their physical and cultural environment, but because their continued usefulness remains essential to their maintenance. The assignment of the heritage architect is becoming more and more to safeguard the futures of intangible values by finding appropriate reuse of extant built heritage with – if required – interventions. These are near-always required, even when the functions of buildings remain the same, due to the constant expansion in comfort-, safety- and energy-use requirements in the built environment.

The emergence of the academic research field of (built-) Heritage and Cultural Value demands answers to pertinent questions: how do we define the field, and how do we educate future architects to detect and tangible aspects of extant structures in order to value them and employ them as drivers for designing. This has proven to be a tenacious problem to address, made more urgent by the continuing pressure on built fabric to conform to new and more stringent societal requirements for energy sustainability.

## **2 HERITAGE AND CULTURAL VALUE**

The Chair of Heritage and Cultural Value in the section for Heritage and Architecture at Delft University of Technology is directly involved in graduation studios delivering

heritage architects. Members of the chair act as tutors to students developing redesign projects for extant built heritage. One of the greatest needs we have identified is to assist students to come to grips with the complexities of valuation and presentation of values all scale levels. This means not only understating those intangible values associated with a built heritage asset presented by others in, for instance, building archaeological and architectural historical reports, but also taking an active part in the valuation process in order to develop personal position as intervention architect.

### **3 DEVELOPING A METHODOLOGY FROM EXISTING PRACTICE**

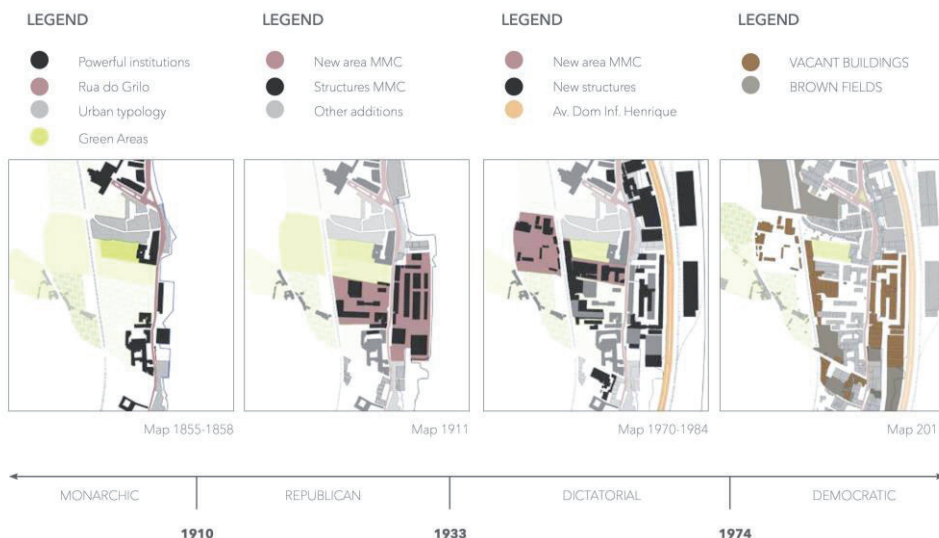
To this aim we have embarked on a process of developing a methodology based on a process of design by research. Essentially, our experience and an overview of existing publications identified a lacuna, which we attempted to fill by designing a first attempt at a tool. The criteria set for the tool was that it needed to be graphic, allow students to identify the typical features of a built heritage site in its present state in direct relation their related heritage values and allow for levels of interpretation. Nicholas Clarke, Marieke Kuipers and Hielkje Zijlstra developed the initial version of the valuation matrix in 2016, building on other methodologies used to analyse architecture (Zijlstra 2009). The next step was to test the design of the tool in educational practice, the graduation studio of Heritage and Architecture, and evaluate the results. If found to be appropriate, iterative modifications would follow, before re-testing in our studios.

In their well-known study of architectural research methods, Linda Groat and David Wang (2012) locate the study of history in the architectural realm as a process of 'interpretative research'. Our application of the study of cultural value follows their structure for historical interpretative research quite closely, namely a process leading from the collection of data/evidence to an identification/organisation to evaluation and finally to narration. An important part of this process is valuation and positioning. We encourage our students to articulate the dilemmas they encounter, as these may become drivers for an architectural intervention.

Teaching students to gather evidence from pre-argued sources, such as cultural value reports, is not a complicated task: opinions have been presented in an argued fashion in these after all. More difficult is helping them understand the extant built heritage asset as the primary source. Students need to learn to observe (which is more than the act of looking), and communicate their observations of the tangible aspects of built assists to us, their tutors. This relationship is akin to architectural practice where today the role of the architect and the scope of their assignment is rapidly becoming that of ethical researcher who first interrogates, then sets and interprets a problem which then leads to a design proposal, all of which needs to be substantiated when scrutinised by peers.

Mapping the chronological evolution of a building's fabric, what we call chrono-mapping – colouring plans, sections and elevations to identify fabric dating to different periods – is an established procedure in the built heritage field. This is an invaluable arrow in our quiver, but only allows for the evaluation of age value, if this is the dominant intangible value as is often the case in ancient monuments. Other systems, such as the Dutch 'Guidelines for Building-Archaeological Research' (Hendriks and Van Der Hoeve 2009) propose a method for representing findings: on a floor plan, indicating those parts that have high, positive or indifferent monument values by means of three different colours. A boxed 'X' can refer to detected monument values of elements not visible on plan: a ceiling, attic or roof construction, and a coloured circle

can refer to aspects of the interior. But this system too does not link abstract values to fabric in a direct and easily understood manner.



**Figure 1: Chrono-mapping on an urban scale: the *Manutenção Militar Complex, Beato, Lisbon, an image from the 2016–2017 H&A studio (Guido Martin)***

Available charters and guidelines for built heritage conservation also do not prove to be very helpful in setting out a framework for assessing architectural interventions when adapting heritage buildings to new needs. Apart from the European Convention Cultural Landscapes (Council of Europe 2000) these doctrinal texts in general speak of 'not disturbing' or 'not distracting' but hardly acknowledge efforts to enhance heritage values. Instead, they require that new interventions should be 'reversible' (Australia ICOMOS 1988) in order to enable a possible return to a former state. However, it could be questioned if this rule of reversibility is appropriate with high-end architectural quality, mid- or long-term use and most importantly, demands of sustainability.

We therefore need a structured educational methodology for architectural investigation into built heritage assets that allows for common comprehension of the essential tangible features in relationship to the intangible values associated with them. These essential features are not necessarily all the same as the attributes that are identified in the ICOMOS Nara Document on Authenticity (ICOMOS 1994) and that are later adopted as a base for the so-called 'Nara Grid' (Van Balen 2008).

#### 4 THE HERITAGE VALUE MATRIX

In architectural education, as in practice, communication must rely primarily on graphic means. Although the mainly descriptive 'Nara Grid' is certainly useful for 'classical' conservation, a more design-oriented valuation tool, which contains visual information as well, is needed for current intervention practice, which focuses on more aspects than material authenticity alone.

#### 4.1 THE TANGIBLE AS POINT OF DEPARTURE

We have adopted the well-known framework formulated by Steward Brand to structure our analysis of the tangible layers of a building (Brand 1994). Brand's framework (Fig. 2) makes the observer aware of the integral physical coherence of a building, as well as the different rates of change pre-defined layers go through. Brand's analysis is relevant to most building types, including houses and offices, but also factories, churches, colleges, schools, grain silos and hospitals; in short, all those buildings, be they one decade or several centuries old, that could become eligible for listing as nationally or locally protected monuments.

Brand distinguishes six general-purpose layers for a building: Site, Structure, Skin, Services, Space Plan and Stuff. Seeing a building as composed of interrelated layers offers perspectives to estimate the impact of related interventions on the physical condition of a building in terms of sustainability and, implicitly, for the long term success of architectural conservation efforts. Precisely because of this down-to-earth nature we propose to conduct the analytical process of observing an inherited built asset along Brand's set of physical layers.

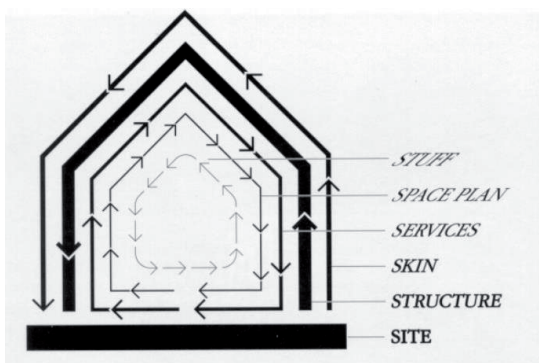


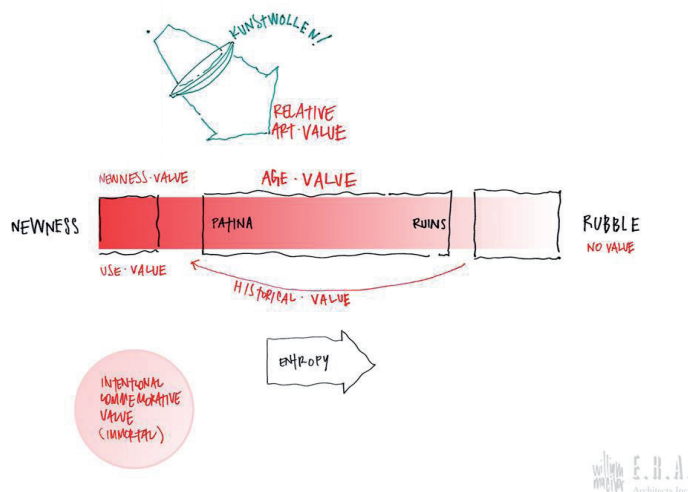
Figure 2: Steward Brands Shearing Layers model (Brand 1994)

Brand himself suggests as an aside adding a seventh 'S' without giving this layer a structural role to play in his mode. This 'S' represents the 'human Souls at the very end of the hierarchy, servants to our Stuff' (Brand 1994). These are, in fact, the successive occupants of a building. Without denying the importance of the role of these actors, we propose an alternative seventh 'S'. Our seventh 'S' represents the Spirit of a place and includes the intangible features of the place as layer; invisible but nonetheless able to be sensed and described. We are not alone when we propose to augment Brand's system. Schmitt and Austin (2016) for instance, propose an eighth 'S' for Society to allow for the role of this multi-faceted actor on both the past and future evolution of buildings to be taken into account.

The shearing layers axis assists in the process of observation, covering all aspects of the physical built heritage assess. Apart from the Spirit of Place layer we have augmented the shearing layers system with two more categories: Surfaces in the interior and the Surroundings/Setting. These layers are already implicitly present in Brand's model but are made more explicit in the Heritage Value Matrix in order to draw sufficient attention to them during the processes of observation and valuation.

## 4.2 SELECTING VALUES

Alois Riegl – one of the most important founders of modern art history – formulated a dialectic system of essential heritage values. In his famous essay on the 'Modern Cult of Monuments' (Riegl 1903/1996), he spoke of a 'cult' to indicate that the appreciation of the historic fabric was like a secular veneration of the historic buildings as if they were sacred relics of the past (Stanley Price et al. 1996). He considered it a modern phenomenon because the cult was no longer in service of a religious belief, but an end in itself in service of society. Importantly, his dialectic set of heritage values was motivated independently of national politics or stylistic preferences (unlike other countries) or elitist preferences for highbrow cultural penchants (such as palaces or manors).



**Figure 3: A diagrammatic representation of Riegl’s dialectic system of essential heritage values (ERA 2011)**

The choice to employ Rieglian values (albeit in a different context than his) in our ambition to relate intangible aspects to tangible fabric is deemed applicable because they are independent from those terminologies usually found in current (inter-) national legislation and codes for heritage protection and conservation (although the use of the Heritage Value Matrix as evaluation tool can be tailored to values prescribed by national legislation, if needs be). It is precisely the antipodal positioning of 'age' versus 'use' or 'newness' values that informs the point of departure of the heritage architect for the next steps in the diagnosis and treatment in the form of conservation, adaptive reuse, or, at ultimate ends of the spectrum, reconstruction or demolition. 'Rarity value' has been added to those defined by Riegl, because this has become an important criterion for the justification of the eligibility of entire, or parts of historical buildings as monuments (Kuipers and Halbertsma 2014). Rarity is therefore a factor to be taken into consideration. An undefined column allows for the inclusion of other values that may be found to be essential to the building, but cannot be accommodated in any one of the predefined heritage values.

There is one crucial aspect that must be mentioned: Riegl valued heritage buildings in their entirety and in view of the radical choices between *konservieren* and *restaurieren*. Riegl did not explicitly address the option creating contemporary architectural interventions for adaptive reuse – a practice which has become frequent if not the

norm – although he fully acknowledged the importance and consequences of keeping heritage buildings functioning. Perhaps even more important than aspects of material authenticity for heritage conservation today, is the challenge for heritage buildings to meet current use requirements, whether these are existing, partly adapted or new functions. Architects tend to interpret use value as the potential for (adaptive) reuse in the near future, while historians or conservationists often associate use value mainly with the still-visible features of past or present usages (and find that these should, as far as possible, be sustained by an intervention). This difference in attitude requires that we seek the 'tolerance for change' based on the 'cultural carrying capacity' (Kuipers and Quist 2013) when undertaking evaluations of findings.

### 4.3 RELATING TANGIBLE TO INTANGIBLE

The first axis of this matrix, based on Brand's six layers to which we have added three more, represents the built artefact. The other axis refers to core intangible heritage values derived from Riegl's dialectic value set, augmented by two additions. By the simple process of populating filling the fields of this matrix where relevant with text and images, and leaving non-relevant relationships blank, values are identified and related to tangible and intangible layers. This identification and relationships, once established, become the basis for further understanding of the value of a built heritage resource.

Riegl+ → Brand+ ↓	AGE value	HISTORICAL value	INTENTIONAL COMMEMORATIVE value	NON INTENDED COMMEMORATIVE value	USE value	NEWNESS value	(relative) ART value	RARITY value	OTHER relevant values
SURROUNDINGS/ SETTING									
SITE									
SKIN (exterior)									
STRUCTURE									
SPACE PLAN									
SURFACES (interior)									
SERVICES									
STUFF									
SPIRIT of PLACE									

Figure 4: The Heritage Value Matrix in its current form

The valuation matrix – presented here in a slightly revised version from that of the original experiment done in the H&A graduation studio – follows neither Riegl's framework nor Brand's model exactly, but offers the opportunity, in all its compactness, aid in the classification of relevant heritage values at various scales. Features eligible for inclusion in the matrix include the range from whole heritage buildings and their surroundings and/or setting to the typical categories per layer and interior space. The matrix could, after the addition of other fabric-scale or intangible value categories, also be applied to 'green heritage' or, if further detailed, to a richly furnished interior.

Supplementary methods directed at architects and urbanists, need to be developed and implemented in addition to those methods published in the 1960s and 1970s for a proper analysis of the features of our more recently-built heritage (Kuipers and De Jonge 2017). In this respect, the analytical drawings of the investigating designers Els Bet and Heide Hinterthür (2005) are very instructive as to how to visualize spatial connections, patterns, contours, the interplay of dark and light, plasticity and greenery as well as colours and materials as typical heritage values of twentieth century settlements.

For the mapping of (in-) tangible features and values, particularly the 'spirit of place', the 'Soft Atlas' approach of the artist Jan Rothuizen (2014) provides a stimulating example of how to note the associations that pop up during the first impression and later observations. All of these multi-sided analyses can be condensed into the Heritage Value Matrix that provides students with the information interpretation and valuation that aims at differentiating the identified features and heritage values in view of taking a position as a heritage architect.

## 5 FIRST EXPERIMENTS

We first experimented with the Heritage Value Matrix in the graduation studios of Heritage and Architecture in the 2016–2017 academic year. The Cultural Value tutors for these studios were Nicholas Clarke, Suzanne Fischer and Marieke Kuipers. The studios covered a range of subjects ranging from traditional to recent and non-valorised heritage. The experiment has proven the versatility of the Heritage Value Matrix and the importance of combining it with other exploration and assessment tools. The process we have developed followed successive steps, although there must be allowance for iterative backtracking between these steps (aligned to the process of interpretive-historical research):

*Step 1: collection of data including observation of the building and context.*

*Step 2: compilation of the construction history of a heritage site, including by means of chrono-mapping.*

*Step 3: identification and classification of the site-specific heritage features in relationship to value found by means of Heritage Value Mapping.*

*Step 4. assessment of the identified features on three levels of significance.*

*Step 5. based on outcomes of steps 1 to 4 above, distilling a position statement addressing opportunities for possible interventions and obligations for conservation, and identify crucial dilemmas for the continuation of the heritage building,*

One way students have chosen to organise the information contained in the matrix is by categorising them according to themes important to the heritage place. These can be represented by colours and sometimes combined in one box while still being justified separately.

### 5.1 MAPPING LEVELS OF SIGNIFICANCE

Following on the collection of data and identification and organisation of the found information, the process involves a qualitative interpretation of the identified features and a critical review of the related heritage values. It aims at a substantiated differentiation in the levels of significance of both the general and the crucial heritage



qualities as summarized in the previous steps of chrono-mapping and Heritage Value Mapping. Such a site-specific indication of high, medium or low or indifferent heritage values per part – not only in plan but also in section, space or facades – aids to steer decision-making for future interventions.

It is preferable that a multi-disciplinary distinction (building archaeological, architectural and socio-cultural historical) is made in this process to provide fair guidance for 'integrated planning and design' based on the present heritage values, but this is not always possible in the architectural education.

VALUE MATRIX AIREY STRIP SLOTERHEER AMSTERDAM	AGE	HISTORICAL	ARTISTIC	COMMEMORATIVE	USE	NEWNESS	CONFLICT	DILEMMA	NOSTALGIA [ ADDED ]
SITE									
STRUCTURE									
SKIN									
SERVICES									
SPACEPLAN								NEW SPACE PLAN VS GRID	
STUFF									
STORY									

NA  
 CAN BE CHANGED  
 MIGHT BE CHANGED  
 CAN'T BE CHANGED

**Figure 5: Testing the Heritage Value Matrix in a H&A graduation studio dealing with post-War social housing constructed with the Airey prefabricated construction system has proven that it has the flexibility to deal with traditional and Modern Movement heritage (Ruben Kaipatty)**

The intention of this step is to clearly mark the highest priorities for conservation, based on present heritage values and not aligned to future design ambitions. Although 'age' and 'authenticity' are frequently adopted as the distinctive criteria, particularly in the maps of building archaeology, other parameters also need to be taken into account for the critical and sensitive differentiation of heritage values in view of the anticipated intervention. In this way the distinguishing features can be made more pertinent in levels of significance than is presented by legal descriptions of heritage sites in local, regional or national registers of protected monuments.

The levels of significance can best be indicated on the Heritage Value Matrix by highlighting aspects by use of a colour-code and adding brief explanatory texts to justify the differentiation made, such as a landmark function, rarity of certain elements, important visual relationships, spatial qualities or the special character of the place.

Both tangible and intangible features can be prioritized as essential heritage qualities.

In the absence of a current uniform colour system to distinguish levels of heritage significance exists (inter-) national practice, we propose the use of the 'traffic light' key – with red for the high, yellow for medium and green for low heritage values – but other colour keys can serve just as well. Therefore a very clear and consistent explanation of the interpretation of the differentiating colours in relation to the levels of significance is always required. The advantage applying a colour coded grading is that it helps to deepen the analyses of heritage features and values as well as to communicate the interpretation to others. But for this they need to be clearly defined and justified. It is possible that this results in oversimplification – a potential disadvantage. In general, however, the differentiation along levels of importance provides for quick insight into which the most important aspects are and aids in communication at an early stage of the adaptive reuse procedure.

In our experiment, some students attempted to synthesize their observations and associations into icons. These might help to get to grips with the complexity of the heritage valuation process and to trigger the imagination for further steps in the diagnosis procedure. Nevertheless, it should always be kept in mind that built heritage is strongly defined by its physical presence, in architectural details, fabric and sizes. The use of symbolic references, or just 'stories', can never replace the direct relation between matter and meaning.

## 6 CONCLUSIONS

Defining steps for researched-based-design in designing-from-heritage has both clarified the role of assignment of values in their graduation projects for students and aided in crystallising the process for architectural practice. The Heritage Value Matrix has proven to be a useful, concise and insightful tool. It highlights the dialectic friction between historical and use values. This can be seen as a weakness, but is also the reality of architectural built heritage re-use practice. It is under continuous discussion at H&A and remains subject to design iterations through the experimentation (research) undertaken through application in our graduation studios.

The matrix is specifically intended to guide students (who become architects) in detecting the essential qualities of the heritage buildings in their present state and to understand them better in relation to the historical evolution and it is not intended to be an all-encompassing tool. The method allows for a certain freedom in the way in which the boxes are filled: either text only, exclusively sketches or other images, symbols which cross-reference to other analysis documents, or combinations of all or any of these. The mapping should be exerted as objective as possible, based on reliable sources of information and sincere observation without anticipation of future changes. It is an analytical method and does not provide for visualized hierarchies of values or features, a differentiation that is required by adaptive reuse investigations.

The Heritage Value Matrix allows us to go beyond the level of narration that is the aim of interpretative historical research (Groat and Wang 2002) and generates an inter-relational fabric-, spatial- and value based assessment that provides a framework for assessment of the impacts of design interventions.

This is of critical importance as, in built heritage, sustaining the intangible can only be guaranteed by strengthening the tangible.

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# “PARADORES” OF SPAIN: A WINDOW TO HERITAGE, TOURISM AND HOSPITALITY

**Laccy Silva**

Mackenzie Presbyterian University (FAU MACKENZIE), Rua da Consolação 930, 01302-907, São Paulo - SP – Brasil, e-mail: laccysilva@lwarq.com

## **ABSTRACT**

The interception of themes as the lodging industry and the urban historical heritage, expose multiple issues as the role of the State in the process of valuation, identification, preservation and use of this heritage. The perception of ideological motivations that arrange the choices and decisions about what should be preserved places us before subtle links among the construction of memories, flow of capital and the tourism. The look on the project of the state company Paradores de Turismo de España enables us to know an experience based on joint activities of integrated management aiming at the sustainable and responsible development of the cultural tourism and revitalization of the heritage. Past and present form a timeline full of meanings and challenges, which the importance is subject to the needs of the present.

Keywords: Heritage / Lodging Industry / Tourism / Preservation

## **1 INTRODUCTION**

The research was initially conceived by the search for a model of international experience with a successful Iberian background, that would reflect the good relationship between tourism and hospitality for the revaluation of the historical heritage, having as object of study the experience of the Paradores de Turismo de España<sup>1</sup>, a public company with more than eight decades of history, which currently manages 95 hotels in Spain, many of them located in nature reserves and historic buildings such as castles, palaces, convents and monasteries. Paradores' experience also demonstrates a tourism policy based on a long-term strategic management vision which developed a set of measures involving the whole national territory, with clear effort to integrate regions with different economic flows and tourism movement. Another important aspect is that for eight decades the management of the historical heritage in Spain has been systematically carried out, and restoration of the historic buildings have taken place, contributing to the dissemination of values such as preservation, culture and Identity of each region affected by the implementation of Paradores de Turismo.

Generation of income and fixation of the man to his place of origin, as well as training of the labor force and improvement of the self-esteem, can be observed as some of the results of the evolution of the project Paradores de Turismo de España. This model of activity has been the object of analysis of several Spanish researchers, who confront the preservation process with the regional economic development effort, capable of a

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<sup>1</sup> The institution Paradores de Turismo began its activities in 1928, with the opening of the first establishment of the network in Sierra de Gredos. Today there are more than 10,000 rooms, divided into a total of 95 establishments, *Nuestra historia*. ([www.paradores.es](http://www.paradores.es))

national reverberation. The present study has been developed within this framework that has as theme the approach of the recovery of urban cultural heritage as a tourism resource, capable of potentiating a modern conceptual view of historical heritage as a factor of collective identity, expression of the cultural wealth of the nation, passing by the social interpretation of cultural heritage and by new definitions that today place it in plans of economic bias. Paradores is positioned with a clear strategic orientation to be the vanguard of Spanish tourism, a company that creates trend, generates ideas and technology and that is the benchmark of the national industry. But at the same time, it strives to improve its identity and to realize a contemporary interpretation of its own values based on the differentials it offers: historical value, unrivaled natural surroundings, personalized attention, traditional gastronomy and wellness, adding technology and the comfort of a 21st century hotel.

## 2 RESEARCH FRAMEWORK

Spain is framed within the context of analysis motivated by the perception of an existing dialogue between the past and the present more grounded, richer, generating a happy harmony between the historical elements and the modern insertions, giving the cultural heritage in Spain continuity and overall vision.

The relationships and interdependencies between the territory and the heritage appear in an analysis that raises the question that for the existence of a sustainable development, there shall be a new interpretation of the architectural heritage as one of the articulators of the territory. The economy and protection of the heritage and the relations among public, private and social, bring the dimension of the Cultural Heritage, which makes it an important means of generating economic growth and development of the territory in which it is inserted, promoting occupation, wealth, opportunities for innovation and competitiveness. Tourism and heritage, with their transversality and transforming capacity, call into question the recovery of Spain's heritage as a tourism resource, able to generate a relevant flow of economic return, at the same time; it poses a potential risk of reverse results in the process of growth of tourism demand of historic cities. To understand this context involving contemporary approaches and experiences, I searched for theoretical frameworks through the collection and bibliographical analysis, thesis of the Human Geography Department of the Complutense University of Madrid and articles by Spanish researchers. The perspective assumed here follows the steps of Troitiño Vinuesa, for whom:

“The reading of the cultural heritage as a source of revenue and not only of expenses, as well as the functional integration of tourism in the city, requires specific research in relation to the urban dynamics, the configuration of the tourist city within the historical city, (...) the transversality of tourism and its multiple implications, both positive and negative, make it a key factor to explain the dynamics of the historical centers of our cities.” Troitiño Vinesa, MA (1999). Director of the Research Group for Tourism and Historical Cities - Complutense University of Madrid.

Magda Cayón Costa<sup>2</sup> who analyzed Paradores de Turismo of Spain in her thesis, took an in depth look on the level of its economic efficiency comparatively with private companies of the hotel sector. In this research, besides evaluating the relative efficiency during the period 1985-2004, the researcher verifies if the efficiency variations are related (or not) with the organizational changes that occurred in the

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<sup>2</sup> Costa, 2007, p. 12. Free translation.

company in that period.

The thesis of Trinad Cortés Puya<sup>3</sup> is aimed at understanding in which measure tourism stimulates the modernization of the urban cultural heritage and offers new opportunities for its renovation, reutilization and conservation. The focus of the research is concentrated on the search of equilibrium models for the relations city-tourism, based on the multifunctionality of the history. Management tools are confronted, the touristical use and development, the approach of the heritage as a source of regional social benefits.

The researcher María del Carmen Mínguez García focuses on the study of the links between the tourism activity and royal residences, and additional studies on the ways in which this relationship is reflected in the territory, resulting in tourism areas and the problems that entails. Aranjuez, El Pardo and San Lorenzo of El Escorial, three tourism destinations and pedestrian walks of long regional and national tradition, which have been attractive for visitors, motivating the displacement of thousands of people for more than a century due to their condition of Royal Residence and the rich heritage they possess. In the last decade, they have adapted to welcome new forms of tourism.

Paula Revenge Domínguez<sup>4</sup>, on the other hand, analyzes the recent symbiosis between tourism and culture, noting that, in addition to a chain of positive effects promoted by tourism, there are negative side effects that require attention and remedial actions. This is a critical approach to the development of areas that have heritage resources, such as architectural rehabilitation, urban rehabilitation and the contribution to regional development and the potential negative consequences caused by the massification of the heritage through its commercialization. The analysis resulted from field research, in which I moved to three cities, visiting and staying in Paradores with different typologies. First, I visited Alcalá de Henares, near Madrid, where Parador de Alcalá – College of Saint Thomas a former convent of the Dominicans of Saint Thomas Aquino, is built. It served as a prison during Franco's dictatorship and fell in ruins after a fire, remaining so until it was recovered by the State and transformed into a Parador, opened in 2008. Its characteristic feature is the insertion of a modern and technological project in what remains of the original structure, valuing it and resulting in a complex perfectly harmonized with the surroundings that form the monumental set of the city that, since 1998, is part of UNESCO's Humanity Heritage.

Chinchón, located 45 km southeast of Madrid, was the second city visited, where I met Parador de Chinchón - Agustino Convent, a 17th century building that survived until 1929, when it was brought to ruin by a great fire. In 1973 the city government donated what remained of the convent to the State, which elaborated its restoration turning it into a Parador. In this case the restoration was very faithful to the original design of the building, of baroque style with renaissance influences, making the minimum adaptations necessary to readjust its use to lodging. Parador de Toledo - Conde de Orgaz, located in Cerro del Emperador stands out for the monumental view of the city of Toledo, was the last one visited. This contemporary building uses traces of the constructive and decorative style of the historical city, as the use of, for instance, of stone in structural walls and some typical Mudéjar elements. The project was designed

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<sup>3</sup> The thesis is part of the research line of investigation opened within the Department of Human Geography at the Complutense University of Tourism and Historical Cities. (Cortés Puya, 2002, page 8. Free translation).

<sup>4</sup> Dominguez, Paula Revenge. *Saberes*, vol. 3, 2005. p. 7. Free translation.

in order to fully exploit the majestic monumental view from the terraces, balconies and swimming pool. All the visits were recorded photographically, generating a vast bank of images that composed the *collection of the author*.

### 3 RESULTS AND DISCUSSION

#### 3.1 URBAN CULTURAL HERITAGE, TOURISM AND HOSPITALITY IN SPAIN: CONTEMPORARY APPROCHES AND EXPERIENCES

In local development proposals in Spain, a new cultural reading of the territory has been produced since the end of last century. As Troitiño Vinuesa notes, "(...) In this case, where the territory, society and culture are the major players, the heritage built by its territorial framework, has a key role in the strengthening of new identities and to create new development areas." (Patrimonio Arquitectónico, Cultura y Territorio, 1998 - dialnet.unirioja.es – free translation)

To achieve sustainable development it is necessary to make a new interpretation of the architectural heritage, as one of the articulators of the territory that is understood as a social construction. With the changes of the last decades, it has not been possible to separate and oppose the concepts of conservation and development<sup>5</sup>, which are seen as necessarily compatible realities through an evolution in the form of value, order, exploration and management of the cultural heritage. The current urbanization model is marked by vicious urban planning practices and the inefficient organization of territory, which result in high environmental, landscape, economic and social costs, generating heavy burdens, such as a chaotic metropolization, massive urbanization of coastal areas, territorial fragmentation and also a deep crisis of the institutional credibility. The change of the regional development policy, which allows the perception of territory not only as a support for economic activity, but as a resource (revenue), value and key agent of this development, is part of a process of confrontation and transition between two theories of regional development: Theory of endogenous<sup>6</sup> development and the theory of polarized development. This development model is originated from an internal view that addresses culture as a factor of wealth generation, capable of giving body to society. Architectural heritage ceases to be only a passive element, limited to conservation and renovation actions, when it is inserted in a context of productive re-laboration.

In the perspective of Vaquero and Hernandez, "the city as heritage has two

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<sup>5</sup> Troitiño Vinuesa observes that according to Tarroja & Camagni, 2006, the debate of recent years allows us to glimpse ideas and innovative plans on the issues related to the territory. The local development, defined by Jacqueline Mengin, as an organized voluntary action that intervenes in a process of social development. Gilbert Dalla Rossa (1996) differentiates three currents of thought on local development theories, the political-administrative, the economic and the humanist, the latter is the one that realizes a complex and global approximation of the local development, born of crisis of models of development and eco-sociocultural break, in short territorial breakdown of our local companies in their economic, social, cultural and territorial dimensions. (Troitiño Vinuesa, 1998).

<sup>6</sup> Endogenous development has its origins in the 1970s, when bottom-up development proposals, or bottom-up development, begun to stand out, building on the potential of the venue as a way of transforming, strengthening and qualifying the internal structures of a region. It is based on the factors of production: social capital, human capital, knowledge, research and development. Factors are managed endogenously in each territory and are based on the execution of policies to strengthen and qualify the internal structures of the territories, creating social and economic conditions for the generation and attraction of new productive activities (Moraes, 2003, p.125).

dimensions: a cultural dimension as a historical legacy, based of the identity and collective collection of a community, an economic dimension, with respect to an emerging vision of heritage and culture, considered in a broad sense, as engines of development.”<sup>7</sup> The relationship between these two dimensions is not yet free of conflict and disruption, because there is a strong ideological component with considerable political burden that shapes the decisions and actions to take the cultural heritage from a condition of legacy to resource. According to the concept extracted from article 1.2 of the law 16/1985, of June 25th, on the *Spanish Historical Heritage*:

“Real estate and mobile objects of artistic, historical, paleontological, archaeological, ethnographic, scientific or technical interest are part of the Spanish heritage. It also includes the documentary and bibliographical heritage, archaeological deposits and areas as well as natural sites, gardens and parks that have artistic, historical or anthropological value.” (Free translation)

Despite the general classification of what should be considered Historical Heritage, in the constitutional text the importance of the *territory* is observed, and its treatment with a strategical approach seeking an intelligent and sustainable management of the heritage. Therefore, the optimization of resources in addition to the use of the diversity contained in the territorial universe is required. This debate has filled the guidelines of discussions in recent years in Spain, for the search for new models and plans on issues related to territory, heritage and landscape. From this perspective, a new vision of the problematic of the territory as resource, value and agent of development is drawn. In summary:

“The path is opening up, not without difficulties, to the conviction of the need of a new culture of the territory and of the territorial action, with new methods and techniques of work, that require the transition from a bureaucratic model of ordination to another participatory one, since the territory is a social construction, and logically can not take place without the citizens.” (Massiris, 2006; Salinas, 2008; Romero, 2009; In Troitiño Vinuesa, 2010. Free translation).

The production of the heritage takes place through innovative actions of public and private agents, noting that in some cases the generation and the appropriation of the patrimonial value follow the logic of the market. The magnitude of this value shall depend on its potential to materialize goods and services with market value derived from the use of the property asset. In other cases, the processes of value generation will be based on mechanisms of interaction of dynamic agents of the civil society that perceive the meaning of the property assets and grant them functions inserted in the sense of social cohesion, identity and belonging.

### 3.2 ECONOMICS AND THE PROTECTION OF THE HERITAGE. PUBLIC, PRIVATE AND SOCIAL CONNECTIONS

In a context of scarcity, the decision making about the destination of resources inserts Economics as a science of relevant importance in the scenario of the protection of the heritage. Amid the contraction of public resources destined to the provision of goods and services motivated by the current economic crisis, the society's decision on which part of its resources should be destined to the protection of existing heritage preliminarily faces a social and political dilemma, since the resources provided may not meet concurrently with any other kind of collective preferences.

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<sup>7</sup> Calle Vaquero; Garcia Hernandez. Ciudades históricas: patrimônio cultural y recurso turístico, 1998, Ería, n. 47, p. 249-250. Free translation.



Selecting among all possible goods and services of the heritage, the ones that deserve renovation, preservation or conservation and in which degree. That constitutes a second level of decision making just as complex as the previous for the multiple number of property assets and the intervention possibilities, ranging from a simple packaging operation to prevent its ruin, up to the creation of architectural environments of excellence, which extends exponentially the resources required. Traditionally there is a conflictive relationship between culturalist and economic positions in the context of the preservation and restoration of historical heritage, although from the 1970s onwards, there has been an evolution in this approach. Therefore, there was certain openness in the economic analysis of the heritage and a closer approximation between the two approaches, which is reflected in all the economic investment effort registered in the last decades in Spain, for the preservation of its Historical Heritage. In the last decades there has been a real wave of patrimonial preservation processes in Spain, whether tangible or intangible. Some of the Autonomous Communities show growth rates in this index, being almost 60% in the Canary Islands, 40% in Andalusia and Aragon and more than 25% in the Communities of Valencia, Murcia, Asturias and Cantabria. In Spain a true wave of preservation processes of the property assets, tangible and intangible, have been taking place in the last decades

### **3.3 PUBLIC-PRIVATE PARTNERSHIPS**

In the current European economic political scene, there is a tendency of non sustainability in the medium and long term of public resources directed to the preservation of the heritage. At the same time, developments in cultural policies achieved in recent decades have brought a new vision for the protection, conservation and management of the cultural heritage and implemented new forms of public-private partnerships as an alternative to raise funds for preservation. The economic dimension of the Cultural Heritage makes it an important means of generating economic growth and development of the territory in which it is inserted, promoting occupation, wealth, opportunities for innovation and competitiveness. In this process we have, on one hand, the need to mobilize private resources and increase their funding, and on the other, the public sector that impacts the preservation of assets directly through the injection of resources, or indirectly through fiscal incentives which are governed by law.

In all the process involving the preservation of the Spanish historical heritage, it can be seen that there has been a constant effort of continuity in the sense of flexibilization of the models and rules that surround the heritage. Thus, the incorporation of private logic into the use of the patrimony and market dynamics can and should be shared with collective interests. The agenda of negotiations often include controversial themes and even taboos, such as the transfer of part of the publicly-owned property to private agents, the privatization of patrimony management processes, public-private partnerships and sponsorship.

### **3.4 TOURISM AND HERITAGE: TRANSVERSALITY AND TRANSFORMING CAPACITY**

The recovery of Spain's heritage as a tourism resource has been the subject of studies, researches and publications in different fields of knowledge, from economics, sociology, geography etc, motivating interest in the search for references and parameters for the development of the present research. In addition to cultural legacy, heritage can become a driving force behind the development and foundation of economic activities related to tourism. The potential of historical cities is proportional to

the heritage resources they have, since the tourism use of these resources is one of the main ways of valuing cultural heritage. According to Vaquero and Hernandez:

“The cultural richness of historical cities is determined both by their tangible assets (the great monuments, the public spaces, etc.) and intangibles (the daily rhythms of the city, the ludic and festive manifestations, etc). Goods and values are integrated in an expanded vision of the heritage that from this perspective becomes cultural heritage (...) in this sense, heritage is, therefore, culture; culture being an strategic resource capable of generating wealth, encompassing both the cultural heritage and the accumulated knowledge of a society (...) Consequently, culture in its different manifestations constitutes the tourism resource par excellence of the historical cities; spaces that are more attractive and offer more opportunities for permanent or eventual animation than the isolated monuments.” (Calle Vaquero; García Hernandez. *Ciudades históricas: patrimonio cultural y recurso turístico*. Eria, n. 47, 1998, p. 250-251. Free translation).

However, there is a potential risk of reverse result on the process of growth of tourism demand in the historical cities, with its set of heritage and its cultural landscapes that face functional and social changes of different aspects. By receiving thousands of visitors, these locations are exposed in certain circumstances to problems of saturation and congestion. This is due to the fact that the social use of cultural heritage is subject to forgetfulness of morphological, social, functional and landscape implications related to the increase of tourism as well as to the ignorance of the risks implicit in the unconscious overcoming of the limits of the reception capacity, as happened with the Nazari palaces in Alhambra, Granada in the late twentieth century (García Hernandez, 2003). Cultural heritage, understood as a product-resource for rebalancing and qualifying tourism systems, in the Spanish case, focused excessively on the sun and beach tourism, is finding it difficult to rationalize the insertion of emerging functions geared towards large audiences, whether tourism, cultural or leisure activities. Thus, the cultural revaluation of the great archaeological sites or the World Heritage Cities, converted them into focus for attracting visitors and their heritage driven by tourism go far beyond the strictly cultural dimension and turns them into a powerful productive resource, with a strong economic impact in their surroundings. According to Villafranca Jiménez; Chamorro Martínez (2007):

“(...) tourism introduces and demands changes, for the pressure it exerts (...) creates conflicts and may incite, in the case of historical centers of the cities or of the cultural districts, that the resident population abandon them, provoking processes of depopulation, ruptures of social balance and patrimonial detachment”. (In Trointiño Vinuesa, 2010. Free translation).

In the current context of economic crisis, in which there was a significant drop in the arrival of international tourists in Spain, there is a great risk of adopting tourism policies focused on quantitative values, increasing flow through aggressive promotions and marketing. It is necessary to focus on integral approaches of a qualitative nature that, in addition to contributing and adding value and new resources, help to spread territorially the tourism activity and avoid perverse monocultures. A well-understood sustainability implies on territorialized decisions and, in the case of tourism use, equipping oneself with the means and setting limits to guarantee the conservation of the property, providing tourists with enriching vital experiences within the heritage. In other words, work on the development of solutions that allow, through investment and appropriate planning and management tools, that cultural resources, depending on their characteristics and possibilities, are the core of a differentiated typology of territories and tourism offer of heritage destinations. (Brito, 2009. In: Trointiño Vinuesa, 2010)

### 3.5 HOSPITALITY IN SPAIN AND PARADORES: CONTEMPORARY APPROACHES AND EXPERIENCES

The current economic and social scenario marked by the international financial crisis, where markets are increasingly saturated, consumers are more demanding and competence and specialization are increasing, forcing tourism companies to improve management systems and the quality of the services and products offered. The satisfaction of customer expectations and business efficiency are being structured as the axes on which competitiveness and the future of companies turn. This new way of understanding and managing business, based on quality and innovation, is breaking the traditional bases on which the entire business structure was based<sup>8</sup>. Such change of paradigm impacts directly in one of the main links in the production chain of the tourism industry, hospitality. The competitive battle in the economic field that confronts cost and price can lead to a misguided competitive strategy, if based solely on cost reduction, would lead to higher volumes of business, conflicting with the growing competence of the international hospitality sector, with repercussions on the socio-environmental environment incompatible with sustainable development.

In this respect Paradores de Turismo make a relevant point. Besides being a quality brand of hotels and restaurants, installed in old and restored buildings, they are instruments of the National Policy of Tourism of Spain. With the effective participation of the State, which holds 100% of the actions, the first objective is to preserve and adapt historic buildings, such as medieval castles, convents, monasteries into lodging facilities and restaurants and at the same time promote the tourism development of a region. Of the 30 hotel rooms available in Spain in 1928, the country now has over 1 million and a half hotel rooms, and Paradores network counts with 95 establishments, of different typologies. Distinct products of Sun & Beach, Nature, Historical Heritage, Golf, Family and Gastronomy, combine the hotel offer with the possibilities of their surroundings. This type of segmented supply is part of a transition of the company's philosophy, starting in 1991, when there was an important change in the organizational structure, and they became a corporation, where 100% of the shares are held by the State, that led to a series of organizational chart modifications such as the creation of the Planning and Internal Control Board, and the introduction of management tools, characteristics of private companies.

Another development was the awareness with the environment, which led Paradores network to become the hotel chain in Europe with the largest number of hotels with a 14.001 certification, concerning the environment (more than 80% of its network). Above all, it was important to reaffirm the commitment to the so-called internal client (the employees), through the increasing of training offered and the system of incentives implemented. The frame of reference for setting the course and orientation of Paradores is the Horizon 2020 Spanish Tourism Plan, a strategy shared by the entire Spanish tourism sector and promoted by the Government of Spain, with which the company is aligned, contributing to the achievement of the objectives of the Ministry of Industry, Tourism and Commerce, that oversees the activity of the company, and the Ministry of Economy and Finance, owner shareholder of Paradores. The Strategic Plan for Paradores de Turismo is part of the National Reform

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<sup>8</sup> Yepes Piquera, Víctor. *Hasta la gestión de la calidad en la actividad turística de la Comunidad Valenciana*. Revista Valenciana d'estudis autonòmics – nº 25, 1998, p.119. Free Translation.

Program, with which the Government of Spain joins the Lisbon Strategy<sup>9</sup> for Productivity and Employment.

Paradores is a productive and competitive company with a high activity index. In 2008, the performance indexes were lower than those of the previous year as a consequence of the economic slowdown that affected all productive and service activities, although the hotel industry, like the rest of the tourism companies, has faced it in a more sustainable way, given the strength of all the Tourism sector. The analysis carried out in Paradores shows that the company enjoys great strength. The network maintains the trust of its customers as a brand of high prestige, synonymous of comfort, kind treatment and hospitality. However, to defend the brand and improve its position in the market, it requires a process of valorization of the network, which extends to all areas of the company. The buildings and facilities that constitute the hotel operation have a unique and incalculable value and constitute a great asset. But in some cases, they need to be subject to remodeling and rehabilitation, sometimes integral, to ensure its correct preservation, indispensable given its condition of historical heritage of the country. Paradores de Turismo objectives are:

- Excellence in lodging services and restaurants;
- Promote tourism in small localities;
- Qualify and empower local labor;
- Preserve and restore old buildings;
- Develop tourism activities with environmental, social and economic sustainability.

## 4 CONCLUSIONS

The State and the heritage have been a binomial since the beginning of preservation in Europe, and it was through the action of the State that the modern conceptualization of historical heritage was achieved as a factor of collective identity capable of expressing the cultural wealth of a nation. As a result of this action, we can also highlight the testimonial aspect of the contributions of civilization and determined cultures, as well as the social interpretations of the urban cultural heritage and, lately, the definitions aligned with the economic plans. The hospitality industry becomes a connecting link capable of elevating the urban cultural heritage beyond the symbolic, significant and formal value, reinforcing its use value, making it a key piece for the tourism supply and demand of the cultural heritage. In search for a relevant model to approach this theme, we find the experience of Paradores de Turismo de España, that almost a century ago, from a monarchical initiative, went through a remarkable trajectory of accomplishments, survived two great wars, besides the Civil War, more than three decades of the ferocious Franco dictatorship and last, since 2008, the great economic crisis that has devastated the countries of the Euro zone.

Paradores de Turismo de España SA, is a competitive public company, a major brand of the Spanish tourism, a high-value image of Spanish hospitality and a reference for the tourism sector of business excellence and productivity. Currently, Paradores'

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<sup>9</sup> The Lisbon Strategy, also known as the Lisbon Agenda or the Lisbon Process, is a strategic development plan for the European Union. It was approved by the European Council in Lisbon in March 2000. The preparation was carried out within the Council of Europe, the international organization of Greater Europe.

purpose is to manage and operate the network of tourism establishments and facilities in the State, as well as other activities directly related to the demands of the *Spanish Tourism Institute (Turespanha)*. Taking a closer look at these case studies, we are confronted with a practical example of how the State can intervene positively in the process of preserving cultural heritage through a systemic vision, with a strategic approach of strong social impact, recovering urban areas, generating jobs, promoting areas with low economic activity and raising the country's image abroad. Paradores stands out for its differentiation of service from the rest of its competitors, either because it is a hotel chain that has unique historical and emblematic buildings, or for the development of its cultural patronage of the highest standard, which selects and values the locality where each of the Paradores are installed. The tourism sector identifies Paradores as an expert model company, innovative, able to anticipate changes in the tourism market and adapt quickly and effectively, committed to sustainability and business ethics. Professionals in the industry consider Paradores a great brand as an employer, an attractive, dynamic work environment that fosters learning, professional development and personal growth. Professionals who work or had worked at Paradores consider it as an element of prestige in their professional career in the tourism sector.

These results demonstrate how cultural tourism and its parallel activities have the potential to contribute to the generation of wealth and employment. The Heritage treated as cultural capital thus generates an important flow of economic returns, offsetting the effort that takes place in preserving it. As observed herein the decision on what to preserve has a strong ideological component, the adoption of a new model of urban historical heritage management, through its use by the hospitality industry, depends on a political decision capable of promoting insertion of modern standards with high level of efficiency, producing socioeconomic and cultural advantages. The experience of the Paradores de Turismo de España demonstrated in this research brings up and proposes a new approach on the themes of heritage, tourism and hospitality industry, leaving an open path for the deepening and study of possibilities. Breaking paradigms and changing attitudes, from the generation of new knowledge to be developed in another stage of this journey.

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# HERITAGE CONSIDERATIONS AND CHALLENGES FROM ANCIENT DNA ANALYSIS: A PRELIMINARY APPROACH EXPANDING FROM THE GREEK LEGAL AND ETHICAL NETWORK

Eugenia Tabakaki<sup>1</sup>, Dimitris Kafetzopoulos<sup>2</sup>

<sup>1</sup> Institute of Molecular Biology & Biotechnology, Foundation for Research & Technology – Hellas, Nikolaou Plastira 100, GR-70013, Heraklion, Crete Greece, e-mail: tabakaki@imbb.forth.gr

<sup>2</sup> Institute of Molecular Biology & Biotechnology, Foundation for Research & Technology – Hellas, Nikolaou Plastira 100, GR-70013, Heraklion, Crete Greece, e-mail: kafetzo@imbb.forth.gr

## ABSTRACT

Biological findings of Paleontology and Archaeology are important carriers of information from the past and can provide with a unique point of view for the study and understanding of our origin, evolution, history, environment and heritage. This information, that addresses some of our most fundamental and primordial concerns, is the basis on which we can build our self-consciousness, understand our existence and gaze towards our future. In that sense, a number of issues, such as ownership, intellectual property and access rights, ethics, legal and regulatory framework are interweaving most of the protection policies, management practices, handling guidelines, dissemination and sharing means and procedures, related to these heritage objects. In this work we highlight some distinct cultural aspects of the biological findings and in particular the information deriving from their molecular –mainly ancient DNA– analysis and we discuss the legal and ethical frameworks that rule their protection, study and management.

Keywords: Ancient DNA / Ethics / Legal Framework / Rights / Heritage Management

## 1 FROM ANCIENT DNA ANALYSIS TO SCIENTIFIC KNOWLEDGE

The biological and cultural information that can be extracted from human or faunal remains of archaeological context is unique and valuable. Skeletal remains are not artifacts. Ancient artifacts reflect patterns of cultural and social development and values of the material cultures of the past. Skeletal remains instead have their basis in adaptive physiological and demographic processes operating at the individual and species levels. There is a cultural significance attached to ancient human remains (Walker, 2007).

The research field of ancient DNA (aDNA) leads to insights about the complex a) human and species evolution history, b) the response of species and humans to cultural and environmental change and the mechanisms behind the evolution and extinctions, c) diseases and demographic changes, d) human population transformations, migratory movements, e) genealogical discontinuities or genetic relationship among populations f) linguistics, expansion of Indo-European languages in Europe (Haak et al., 2015).



g) ecology, animal husbandry, and genetic history of domestication etc. (Zeder et al. 2006).

The field of aDNA consists a wide and highly multidisciplinary research domain. There is a new and challenging potential of combining molecular data with cultural, archaeological, anthropological, bioarchaeological taphonomic, environmental, and ecological data sets in multidisciplinary approaches of cultural tangible and intangible context. Bones are the material evidence of our cultural, scientific and natural heritage (Walker 2007), but they are also carriers of a very important intangible content associated with customs and traditions religious, ideological and cultural values of entire populations or cultural groups. Ancient DNA study is a multidisciplinary interaction procedure involving interdisciplinary researchers and users that develop, integrate and evaluate their hypothesis and results. The development and use of collective tools, methods, ideas and results provides a pioneering process that supports and expands field knowledge and new practices in the future.

Most importantly, the new field has initiated a process that eventually led to the independence of a specific scientific thought and supported existing theories. Second, the interaction among different scientific cultures (Bioarchaeology - Molecular Biology - Archaeology - Anthropology) stimulated synergetic creativity through new ways of thinking and new data. Last, but not least, the foundation of scientific field of aDNA, and the establishment of aDNA Labs and research, contributed to scientific progress through the dissemination of new multifaceted, interdisciplinary knowledge.

Over the past years archaeologists, historians, anthropologists and aDNA researchers have initiated a discussion about the

- a) developing ethics of interdisciplinary synergies in this fast growing research field,
- b) integration of the aDNA dynamics in a multidisciplinary research field,
- c) validity of data generated through the aDNA methodology, and
- d) the interpretation of this data into a cultural context.

In this paper, focusing on the current Greek archaeological context, various issues regarding the ethics and legislation are reviewed. We report on the unique multidisciplinary and collaborative research environment shared by archaeologists, historians anthropologists, bioarchaeologists and ancient DNA researchers, that extends beyond a traditional giver-taker relationship. In this paper we document the present links and issues between fields, disciplines, and interdisciplinary functionalities, focus on draft lines for best practices for multidisciplinary synergies, and ethics, by exploring the effectiveness of a successive work circle approach and the present situation in the field.

## **2 STATE-OF-THE-ART IN ADNA ANALYSIS**

It is essential to comprehend the complex dynamics in the research field of aDNA in order to overcome the limitations and incorporate new cultural concepts and understanding into the field. Thus, we cannot discuss the future of the field without taking into account the issues generated by the complexity of the aDNA research. The Ancient DNA analysis is not yet fully incorporated in the current archaeological practice

and project planning. The reasons for this are practical and theoretical: ancient DNA analysis is a complex technique with many variables and often consists an “after thought” to an archaeological project (Evison, 2001).

Ancient DNA analysis depends on the successful completion of a number of different steps. The process always starts with the excavation of the human or faunal remains and ends with the interpretation of the aDNA data. Ancient DNA analysis involving human or faunal remains can be classified into three successive and interactive phases:

- I. Pre - laboratory phase which includes planning the multidisciplinary project, determining sampling strategy, ensuring access and availability of the material, identifying the most appropriate and representative material, sample selection in the excavation field or in the museum conditions (Yang and Watt, 2005).
- II. In - laboratory phase, which includes sample preparation, aDNA extraction and analysis (Rohland and Hofreiter, 2007)
- III. Post - laboratory phase which includes interpretation of results, follow-up, reanalysis.

The pre – in and post laboratory phases can be classified on the basis of various factors.

The pre laboratory process associated with the research design and the goals tailored for aDNA project planning is related to:

- a) determining sampling strategy. Determining which strategy applies best to the particular cultural – anthropological context including quantity and quality decisions, recording the effects of handling, and the storage of the remains in the museums.
- b) preparing the Clean collection of samples during excavation in the excavation field (prepare the required tools for clean collection avoiding contamination);
- c) selecting the appropriate (with less physical and chemical degradation of DNA) ancient remains for DNA analysis. A great number of samples subjected to aDNA analysis often fail to produce results, and successful analysis is typically limited to specimens that exhibit excellent preservation.

The in- laboratory process associated with ancient bone or teeth sampling is related to:

- a) sample conservation,
- b) preparation of sample, sample treatment prior to DNA extraction is required to remove or minimize pre-laboratory surface contamination. Irradiation with UV light of all sample surfaces is necessary but not sufficient,
- c) contamination controls, contamination of samples with exogenous DNA is an ongoing problem and requires careful design of research strategies to limit and identify all DNA contaminants. Overall, aDNA analysis is a highly specialized and technical field that requires extensive training and can be quite expensive. Each aDNA study should be carefully planned with significant input from archaeologists, physical anthropologists, linguists, and related researchers and should focus on well-preserved samples that are likely to produce a clear

answer to a question that is not amenable to nongenetic analysis (Mulligan, 2006),

- d) aDNA extraction, the process of amplification, cloning and sequencing which is usually constrained by the short length of the DNA fragments recovered and by the small amount of template DNA in the sample (Rizzi et al., 2012),
- e) aDNA analysis, library preparation for next generation sequencing (NGS) and polymerase chain reaction (PCR),

The post- laboratory process associated with ancient DNA analysis is related to:

- a) interpretation of results,
- b) follow-up by analyzing large-scale genomic data with statistical and computational methods,
- c) re-analysis (ancient DNA should be extracted, amplified and sequenced from different bones of the same individuals, in different laboratories and by different groups of researchers).

All the factors above can influence the quality of laboratory results.

### **3 POLICIES AND PERMITS**

(according the Greek legislation system)

The human remains treatment reflects complex political, cultural and scientific knowledge procedures and consists a challenge for the present. In the case of finds – human remains coming from an archaeological excavation - there is an accompanying documentation. Moreover, the legal framework is clearly defined. In contrast, the cases of non-excavated accidental findings have an incomplete record file, meager documentation and absence of defined legal framework (Sakki, 2013). However, according to the Greek legislation (Law 3028/2002), human skeleton or mummies discovered or excavated, following scientific methods and procedures, in an ancient tomb or cave, are connected with human existence and constitute cultural objects and are declared parts of the Greek Cultural Heritage.

Human remains are considered (according to the Greek legislation) to be cultural objects, in the sense that they construct an identity of the human existence and of individual or collective human activity (Law 3028/2002, Article 2, paragraph a). This is justified because it provides information on any aspect of human life (living, social and political structures, religious worship, customs, art and spiritual culture in general, specific historical events, etc.) from the distant past until today. The distinction of ‘archaeological’ materials is reserved for objects and sites dated prior to the 19th century. Tombs dated prior to the 19th century, including those from the Bronze and Iron Ages, are usually excavated by archaeologists with the same permit procedures as other excavation projects. There is no specific legislation in Greece at present that is focusing on the excavation and analysis of human remains. There are also no general official guidelines or procedures that researchers follow (Eliopoulos, 2011).

A human remain, like the human body, is not a ‘thing’ in the sense of the law. When, however, with time a disconnection takes place from the personality, it is assumed that the skeleton of a human or an embalmed corpse (mummy) becomes a thing and object

of receptive transaction. The same applies to the corpse delivered in Anatomy for scientific purposes. Referring to the antiquities and general cultural heritage, it is important to understand that an ancient skeleton or an embalmed corpse, which is an excavation finding, or the relics of a saint is a thing and can become subject to ownership. The property right or Ownership of ancient human or faunal remains belongs to the Greek State. However, because the current international law is in flux regarding the application of property rights over modern supplied DNA, establishing who has the best right of property over ancient DNA remains tricky. Although there is a general no-property principle for dead bodies, the cultural importance of ancient dead bodies establishes a proprietary right over the remains. This right may go to a descendant, or an entire nation (Elliott, 2009).

The Greek Ministry of Culture is the state body, responsible for all policies in matters of Human remains from archaeological context in Greece. The excavation protection and study of human remains fall under the Law 3028/2002 and all issues related to their treatment are subject to the same legislative controls as any other ancient monument (Eliopoulos, 2011). The skeletal remains of individuals from inhumation and cremation burials from all periods of Greek prehistorical and medieval human and faunal remains are stored in Greek museums and Ephorates (Peripheral Services of the Greek Ministry of Culture). The human remains that were excavated till 1973 are stored in the Greek museums all human and faunal remains from excavations that took place after 1973 are under the jurisdiction of the Ephorates.

The study, selection, sampling, extraction of aDNA from human or faunal remains of Greek archaeological sites or museum collections, need the specific consent and permit issued by the Central Archaeological Council (CAC) which is the highest advisory body on all matters pertaining to the protection of ancient monuments, archaeological sites and sites of exceptional historical or legendary importance up to 1830. Of course there are certain justified barriers & limitations regarding the permits for availability of ancient human remains of the Greek territory.

Sometimes, the benefits of an ancient DNA study is outweighed by the cultural or sacred importance of the remains as well as the risk of damaging. Therefore, all research permits obtained for aDNA research projects, have to comply with specific relevant regulations and an extensive and analytical research report is required to justify the aim and/or explain the research approach. Obtaining an aDNA research Permit in Greece is a challenging, demanding time consuming process, considering previous, experiences, with limiting factors as the accessibility and availability of material.

In Greece, there have been no debates or discussions between the society and the research community on the management and preservation of human remains. On the contrary, most modern Greeks maintain high esteem for their ancestry and they have integrated these value into their national identity and cultural continuity. Ancient human remains are excavated and displayed without opposition or contradictions in museums.

In this context, they serve as symbols of the common national past that is shared by all greek citizens. As mentioned before the property rights (according to the Greek legislation) over the ancient human remains, belong only to the Greek state.

## 4 ETHICS OF ANCIENT DNA RESEARCH

Ethical issues relevant to all research phases of DNA analysis from ancient remains must be considered during the development of the domain (Paradise and Andrews 2007). These issues include designing of research project, access and availability of remains, permits and administrative procedures, selection - collection of specimens, preservation, destructive or invasive sampling, reserving a portion of the studied samples for future research, and considering the impact of potential results on living, descendant populations (Kaestle and Horsburgh, 2002).

There are many limiting factors with regard to the quality, the amount and integrity of recovered DNA in ancient research (Handt et al., 1996; Krings et al., 1997).

These emerging ethical issues are perhaps the most difficult to standardize and thus are expected to be for long a subject for discussion.

Since sampling is a minimally destructive and unavoidable process, a balance needs to be struck between the risks involved, ethical considerations, the importance of the possible results and the size of sample required, the rarity of the remains (Antoine and Ambers 2014).

The thought of waiting for less destructive techniques is an open option in many cases and requests. Lately a new discussion about only supervised sampling by museum personnel should take place has initiated new thinking and actions. However, the contamination of samples is a serious matter which we should consider while working on the process of supervised sampling in the museum storerooms. The last months we have started (in our Lab) working on a methodology in order to balance the anxiety of uncontrolled sampling and to establish a mutual trusting environment.

Ancient DNA researchers focus to the systematic but empirical collection of a representative group of specimens, used to determine truths about the ancient population or group under study. There is always a sampling frame which is depended on various factors that influence sample representativeness: Sampling procedure, Sample size, Sample quality, availability etc. During this qualitative and quantitative selection procedure many ethical dilemmas are encountered.

Prior accurate and reliable archaeological documentation significantly contributes and secures the value of the a) selection and b) sampling procedure. Ancient human or faunal remains which lack cultural context and archaeological associations are considered less scientifically valuable than carefully documented collections. The determination of cultural, religious, linguistic, ethnic affiliation must be based on a set of scientific evidence that can be examined and evaluated; cultural affiliation cannot be based on assertions alone. Other parameters that are involved are chronology and time passed since the burial, importance and value of the archaeological – data of the excavation related to the DNA research etc.

The selection and sampling is a unique and challenging multidisciplinary scientific procedure which ensures that the optimum sample for ancient DNA analysis is selected (Llamas et al., 2017).

## **5 CONCERNS ABOUT THE PRESENT PRESERVATION & HANDLING PROCEDURES OF HUMAN AND FAUNAL REMAINS**

Cultural and ethical questions are involved in the storage, preservation and conservation process of human remains kept in museums or collections, particularly when it comes to ancient DNA analysis. The availability of molecular techniques has led to an increased interest in museum collections, as they may be extremely useful not only for studying human remains or extinct species at the molecular level, but also to integrate DNA analysis into previous studies conducted at a morphological level only. However, although DNA is a chemically relatively stable molecule, its preservation is not guaranteed under all storage or conservation conditions. Some conservation methods and materials can deteriorate and sometimes cause damage while often failing to provide the necessary support and affecting potential analyses. The removal of adhesives and fills may be important in the survival and proper interpretation of the human remains (Wills et.al. 2014). Despite the efforts, several discrepancies have been reported in the literature regarding the techniques for preserving human and faunal remains for DNA analysis, prompting us to focus on the effects of different storage and preservation conditions on skeletal remains DNA preservation. Ethics as seen here simply request a protective frame of our Cultural Heritage as well as a positive public perception for the ancient DNA research. The point of view of the museums is expressed by ICOM's Code of Ethics 2013 (ICOM is short for the International Committee of Museums). It is stated that collections of human remains should be acquired only if they can be housed securely and cared for respectfully. This must be accomplished in a manner consistent with professional standards and the interests and beliefs of members of the community, ethnic or religious groups from which the objects originated, where these are known (see also 3.7; 4.3 of the Code). Research on human remains must be accomplished in a manner consistent with professional standards and take into account the interests and beliefs of the community, ethnic or religious groups from whom the objects originated, where these are known. (See also 2.5; 4.3 of the Code). If a museum houses human remains then it has a fundamental duty to care for them meaning both a) looking after them and b) sharing their importance with visitors and users. Being in storage does not of course mean being inaccessible. Human remains have their own dynamic of care encompassing the storage location and climate conditions research and sampling, labelling and marking and conservation, all aimed at preserving their long term integrity (Giesen, 2013). Although skeletal remains do not require very closely controlled environmental conditions, the storage area should not be liable to abrupt swings in humidity and temperature. Relative humidity should generally be in the middle range (35-70%) and should not be allowed to rise above 85%. Excessive humidity may result in mould growth. Excessively low humidity may cause cracking or flaking of bone. Storage environment should be protected against frost. Storage of remains in direct sunlight should be avoided as UV damage may occur to bones, boxes and labels. (DCMS 2005).

## **6 COST-BENEFIT CONSIDERATIONS OF INVASIVE AND DESTRUCTIVE METHODOLOGIES**

Ethics of invasive research methodology creates concern among cultural institutions and the community of archaeologists. Although the ancient DNA technique is minimally invasive, it requires transfer and exportation of the valuable museum specimens to the laboratory and exposure to an invasive treatment (DCMS 2005). This is the reason why the research permits which involve human or faunal remains are often denied by museums of other cultural institutions. In a perfect world we would be able to maintain the integrity of archaeological and anthropological specimens and the integrity of the scientific procedures. Both Cultural Institutions and the research community need to establish means to protect both a) the integrity of the research and b) the integrity of the cultural objects by reviewing the research protocols and ensuring that the research methodology is minimally invasive. Unfortunately, aDNA analyses still require a substantial amount of bone, particularly if one wishes to perform duplicate extractions, as well as abrasion of the outside surface of the bone to remove potential contamination. While a few grams of bone may be a modest price to pay for important information about the identity, or origin of past peoples overenthusiastic sampling may destroy indicators of age, occupation, lifestyle and disease (Hagelberg, 2012). Organizations such as BABAO (British Association of Biological Anthropology and Osteoarchaeology) and English Heritage propose that careful consideration should be given to whether the proposed analyses are relevant and justify the sacrifice of osteological material. We need to overcome our fears and encourage robust studies on archaeological human remains so that aDNA will enable a more significant contribution to understanding past human populations.

## **7 ANCIENT DNA ANALYSIS AND THE PERCEPTION OF ETHNIC AND CULTURAL IDENTITY**

Because aDNA studies have the potential to provide evidence of genetic links between living and ancient individuals and groups (ancestor/descendant relationships), this type of evidence could be used to advance Native rights, or to reject them, in countries that recognize such rights (e.g., the USA, Canada and Australia). Scientists emphasize how deeply genetics has penetrated into our life and focus on the role of genetics as a new and powerful technology in the life science repertoire, which is an appreciation of just how complex and multifaceted the processes of identity formation may be (Kaestle and Horsburgh, 2002).

Existing aDNA analyses concerning European ancient population's origins could provide some links established between population groups. Archaeologists still, debate if similarities in population groups are considered to be the result of the mass movements of peoples, or simply the result of shared cultural traits, levels of social complexity and trade (Peroni, 2004). Establishing cultural affiliation between a single very ancient individual and another ancient or living group is very difficult using genetic evidence, although perhaps not impossible, depending on what is meant by "cultural affiliation" (Kaestle and Smith, 2002). For example, the 'Minoan population' cannot be determined by genetic studies alone, and a 'Minoan' genetic fingerprint cannot be constructed because 'Minoan' is nothing but a label for a population group leaving on the island of Crete during the Bronze Age with common cultural traits. What the aDNA

study help us to do is to reconstruct the genetic ancestry of a sampled population of a geographic region. What really counts is the distinction between genetic ancestry and cultural affiliation. The methodologies that the molecular biologists are developing, have the potential to explore some of the fundamental questions concerning the definition of Mediterranean population identity (Perkins, 2009).

We know that genetics, linguistics, religious or other common cultural factors cannot act as an objective and universal definition of an ethnic group. They are instead indicia or the operational sets of distinguishing attributes which tend to be associated with ethnic groups once the socially determined criteria have been created and set in place (Hall, 1995). We should bear in mind that the most important criterion for distinguishing an ethnic or cultural group is that the members of such groups think of themselves as part of the same entity (Whitley, 1998). Yet we have still much to learn since recent studies expose that cultural processes can have a profound effect on human evolution, and that cultural practices can modify current selection. These findings are supported by analyses of human genetic variation, which reveal that hundreds of genes have been subject to recent positive selection, often in response to human activities (Laland et.al., 2010). The bottom line here is that human culture interacts with genes in complex ways, and studying genes and culture together can deepen our understanding of human evolution and culture (Creanza and Feldman, 2016).

## 8 CONCLUSIONS

Ancient DNA analysis, as many other revolutionary technological advancements, is altering our understanding of scientific facts and historical events providing us with a new point of view and broadening our knowledge, and challenging our appreciation and acceptance on the extend and impact that the use of this technology may have on the way we perceive, manage and relate matters to our cultural heritage and our genetic identity.

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# THE IMPACT OF POLITICS AND IDEOLOGY ON THE TRANSFORMATION OF HERITAGE VALUES: HACI BAYRAM DISTRICT IN ANKARA, TURKEY

Özgün Özçakır<sup>1</sup>, A. Güliz Bilgin Altınöz<sup>2</sup>, Anna Mignosa<sup>3</sup>

<sup>1</sup> Research Assistant, PhD Candidate, Middle East Technical University, Department of Architecture, Graduate Program in Conservation of Cultural Heritage, ozgunozcakir@gmail.com

<sup>2</sup> Assoc. Prof. Dr., Middle East Technical University, Department of Architecture, Graduate Program in Conservation of Cultural Heritage, bilginaltinoz@gmail.com

<sup>3</sup> Dr., Catania University, Department of Business and Economics; Erasmus University Rotterdam, Erasmus School of History, Culture and Communication, Arts and Culture Studies, anna.mignosa@gmail.com

## ABSTRACT

The interpretation of cultural heritage is often influenced by politics and ideology. Depending on prevailing ideology, ways of intervening on cultural heritage places can change. Today, in Turkey heritage places are subject to interventions through urban transformation projects. These interventions may lead to changes, even destructions of socio-cultural values due to the emphasis on political, economic, ideological and religious motivations of decision makers.

“Hacı Bayram District” in Ankara is representative case that demonstrates the impact of politics and ideology on the changing values of heritage places.

The district has unique values due to the co-existence of the Hacı Bayram Mosque and the Augustus Temple. “Hacı Bayram Square Urban Design Project” was implemented in 2012 and values of heritage site were drastically transformed. The aim of this paper is to discuss transformation and possible misrepresentation of existing values in urban design project and changes in values following the implementation of projects.

Keywords: Values of cultural heritage / Politics and ideology / Value changes / Urban renewal

## 1 INTRODUCTION

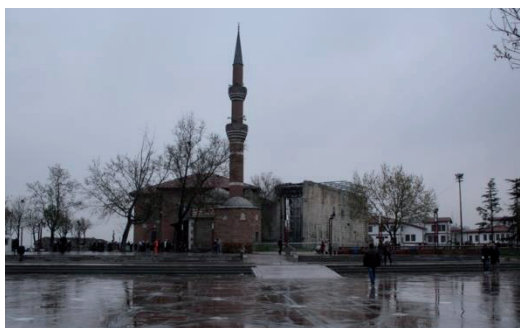
Conservation of cultural heritage is a ‘value’ based process. The concept of ‘value’ has been discussed in the field of conservation since the early 20th century and various value typologies ranging from socio-cultural to economic values have been defined by different scholars since then. However, ‘value’ is a relatively subjective issue that changes according to time, society and place. During the assessment of cultural heritage values, the political and economic motivations of decision-makers may result in different interpretations of the values, and subjective evaluations of cultural heritage may influence conservation decisions. The “conservation” practices based on subjective assessments may cause profound changes in the values of cultural heritage following the implementation of “conservation” projects.

Depending on the prevailing political power and ideology, the ways of intervening on cultural heritage changes. In different geographical areas and in different time periods, cultural heritage has been used and abused by the politics and ideologies in power as

the arena to display their power. Today, heritage is still subject to interventions through urban transformation and regeneration projects which can be influenced by the politics and ideology of decision makers. These interventions may lead to demolitions and destructions of social and cultural values of cultural heritage due to emphasis on the political and ideological motivations of decision makers.

In Turkey, heritage buildings and sites are subject to laws for their conservation, limiting future interventions. In order to overcome these 'legal obstacles', a new policy instrument was introduced in 2005: "Law No. 5366 on Renovating, Conserving and Actively Using Dilapidated Historical and Cultural Immovable Assets", so called "renewal law". The aim of this law is defined as economically valorizing deteriorated immovable heritage properties. According to the renewal law, heritage properties are valorized from an economic perspective through a renovation process that entails its maintenance and conservation. Starting from 2005, with the enactment of this law, "renewal projects" have been implemented in "renewal areas" within heritage sites. In order to transform the heritage sites, the "renewal law" has been misused and "renewal projects" have sometimes been considered as a tool for realizing urban transformation objectives of local authorities based on their political and economic motivations. Hence, the "renewal law" has triggered conflicts in terms of conservation of cultural heritage. This is because, "renewal projects" lead to the creation of new areas designed according to economic, political, ideological and religious motivations of decision makers and neglecting the conservation of cultural heritage. In the case of "renewal projects", then, the tension between different definitions of value is evident.

"Hacı Bayram District", located at the heart of "Ankara Historic City Center – Ulus" renewal area, is a representative case of the effect of "renewal projects" on the values of a heritage site. Hacı Bayram District is a stratified place, in which many architectural and archaeological remains from different time periods exist. The remains themselves have different values and the togetherness of the remains belonging to different time periods has also exceptional values. As a result of the multilayered character of Hacı Bayram District, heritage site has unique heritage character due to the co-existence of Hacı Bayram Mosque (1427), dating back to the Ottoman Period, and Augustus Temple, dating back to the Roman Period.



**Figure 1: The coexistence of Hacı Bayram Mosque and Augustus Temple in Hacı Bayram District. Source: A. Güliz Bilgin Altınöz**

From the Ottoman Period onwards, Hacı Bayram District has been subject of various interventions in parallel to political and ideological motivations of each decision maker in power. As a result of these interventions, heritage site is drastically transformed and these different projects caused changes of tangible and intangible values. Lastly, "Hacı Bayram Square Urban Design project" was implemented in 2012 and the project

transformed the heritage site using a new pseudo-traditional architectural language. The project emphasized the religious values coming from the Hacı Bayram Mosque. However "Hacı Bayram Square" has different values, including the archaeological value linked to the Augustus Temple, and uniqueness and rarity values resulting from the co-existence of Hacı Bayram Square and Augustus Temple.

The aim of this paper is to show the impact of political and ideological approaches to the values of cultural heritage and discuss the effects of "Hacı Bayram Square Urban Design Project" on the different values of the heritage site answering the following question: "Which values of the area has been changed/transformed following the "Hacı Bayram Square Urban Design Project?" Intervening on heritage places with political and ideological motivations is not a new phenomenon and heritage has always been used to impose politics and ideology in power (ie. the conversion of Byzantine Hagia Sophia Church to Mosque when the Ottoman Empire conquered İstanbul and Hagia Sophia Church is converted into Museum after the establishment of secular Turkish Republic; the construction of Via dei Fori Imperiali in Rome by Mussolini; destruction of Buddha Statues in Bamiyan Valley by Taliban; the destruction of Palmyra archaeological site by Daesh in Syria). OMA's exhibition entitled "Cronocaos" in La Biennale di Venezia, 2010 (OMA, 2016) also focuses on the interrelationship between politics, ideology and heritage. This paper focuses on the interventions implemented using political motivations of current decision makers in Hacı Bayram Square that considered specific values of cultural heritage and caused a modification of the existing heritage values.

The paper discusses the value changes before and after the implementation of the renewal project. Respectively, the paper will first explain the different value typologies of cultural heritage including sociocultural and economic values, Then, it will analyze different laws on urban regeneration in Turkey, thirdly it will describe Hacı Bayram District and the values it has and, finally, it will investigate and assess the value changes in Hacı Bayram Square following Hacı Bayram Square Urban Design Project.

## **2 THEORETICAL BACKGROUND: VALUES OF CULTURAL HERITAGE AND LAWS IN TURKEY**

### **2.1 VALUES OF CULTURAL HERITAGE**

Conservation of cultural heritage is a 'value' based and multifaceted task which starts with surveys and analysis, continues with evaluation and ends with intervention decisions. In the evaluation phase of the preservation process, values of cultural heritage are assessed in a systematic manner by giving references to the different values of cultural heritage properties.

Importance and significance of heritage sites is based on the values that it involves. Traditional modes of assessing "significance" rely heavily on historical, art historical, and archaeological notions held by professionals, and they are applied basically through "uni-disciplinary" means; however, there there is not single discipline or method yielding a full or sufficient assessment of heritage values (Mason, 2002). Therefore, a combination of methods from a variety of disciplines is needed for a comprehensive assessment of the values of a heritage site. In fact, the essential concept underlying any assessment of the significance or the worth of cultural heritage is the concept of value. Cultural heritage is a subjective and nomadic term and the

norms and values that define value typologies change according to the spirit of the time and place (Hutter and Rizzo, 1997; Mason, 2002; Feilden and Jokilehto, 1998).

The assessment of heritage values has been faced with difficulties. These problems result from factors such as the diverse nature of heritage values some of which overlap or compete, the fact that values change over time and are strongly shaped by contextual factors including social forces, politics and ideology, economic opportunities, and cultural trends (Mason, 2002). Additionally, a single heritage asset may possess conflicting values ranging from historical to commercial that make the assessment especially difficult (Feilden and Jokilehto, 1998). For this reason, the assessment of the values which are attributed to heritage is a very important activity in any conservation work, because values strongly shape the conservation decisions (Mason, 2002).

Since the early 20th century, scholars in the conservation field have been aware of the coexistence of different values ranging from socio-cultural to economic. For many years, there have been academic studies on the conservation of cultural heritage asking the questions of when, how and why it should be done by giving references to different values approaches. Most of these studies focused on the aesthetic, social and cultural values of the cultural heritage. However, starting from the second half of the 20th century (Rypkema et al., 2011), many academic studies and charters have looked at the values of cultural heritage and scholars from many disciplines have dealt with heritage values such as architects, art historians, archeologists, anthropologists, sociologists, historians, geographers and economists, since the assessment of the values of cultural heritage is both an interdisciplinary and multidisciplinary research track (Riegl, 1902; Lipe, 1984; Frey and Pommerehne, 1989; Frey, 1997; Burra Charter, 1998; Feilden and Jokilehto, 1998; Klamer and Zuidhof, 1999; Serageldin, 1999; Mason, 2002; Ready and Navrud, 2002; Snowball, 2002; Throsby, 2007; Lipe, 2009; Throsby, 2012; Klamer, 2013).

According to Mason (2002), all the values attributed to heritage are political and they are part of the power struggles and exertions that determine the fate of heritage (Mason, 2002). Political values of heritage occupy the center stage when it comes to the decisions about the conservation of heritage. As Mason (2002) states political value can be both interpreted as a contributor to civil society or political tool used to enforce national culture, imperialism, and post colonialism. Hacı Bayram District certainly shows how the heritage place becomes the arena of power struggles and political tool to enforce the ideology of decision makers when the interventions to Hacı Bayram District starting from Ottoman period onwards are considered.

## **2.2 LAWS ON URBAN REGENERATION AND TRANSFORMATION IN TURKEY**

The importance and significance of cultural heritage sites are based on the values that the site involves. As a result of these different values, heritage sites have drawn attention of local authorities and investors as potential areas of economic and/or political benefit to be the object of new interventions. With these interventions, local authorities and other decision makers transform the values of cultural heritage by manipulating them according to their value system.

Heritage sites in Turkey are subject to strict legislation with various laws, regulations and control mechanisms to guarantee their sustainability and protection. However, in order to overcome existing rules and regulations, new legal instruments have been introduced in Turkey starting from 2000. These new rules facilitate new interventions

on heritage sites and thus, most projects in historic sites triggered urban conflicts in terms of the preservation of cultural heritage.

The " Law No. 5366 on Renovating, Conserving and Actively Using Dilapidated Historical and Cultural Immovable Assets" introduced in 2005 which is also known as the "renewal law", was one of the most important legal instruments that accelerated the transformation of the conservation areas. This law makes it easier for local governments to intervene on heritage sites due to the extensive rights, such as expropriation, granted by the law. Since 2005, when it entered into force, this law has become a powerful legal instrument for the transformation of cultural heritage sites in the direction of political and economic interests of local and central governments, beyond the protection and sustainability of registered natural and cultural heritage sites.

Since Law No. 5366 has been introduced in 2005, 35 renewal areas have been declared in different cities of Turkey. On August 8, 2005, the very first renewal area was declared by the Council of Ministries with the decision about Ankara Historical Urban Center – Ulus.

There have been scattered interventions in "Ankara Historical Urban Center – Ulus" according to renewal law. These interventions are mostly street rehabilitation projects and open area arrangements including "restoration" of historical buildings and construction of new buildings in different parts of the renewal area. In this paper, the selection of Hacı Bayram District is based on various reasons. First, Hacı Bayram District has unique heritage values due to the co-existence of Hacı Bayram Mosque, dating back to the Ottoman Period, and Augustus Temple, dating back to the Roman Period. Second, the effects of "Hacı Bayram Square Urban Design project" implemented in 2012 on the values of the heritage site is visible today. Third, the project transformed the values of the site by using new pseudo-traditional architectural language. The urban design project emphasized the religious values coming from the Hacı Bayram Mosque, however "Hacı Bayram Square" has also other values, especially the archaeological value of the Augustus Temple.

### **3 HACI BAYRAM DISTRICT IN ANKARA: A MULTI-LAYERED HERITAGE PLACE WITH MULTIPLE VALUES**

Ankara, which is now the capital city of Turkey has been continuously inhabited starting from Paleolithic ages. Phrygian, Galatian, Lydian, Persian, Roman, Byzantine, Seljukid, and Ottoman communities settled in Ankara through time (Buluç, 1994).

According to the archaeological excavations, Phrygians settled in Ankara from 8-9 BC to the 7th century BC. Ankara was ruled by Lydians and Persians between the 7th and 6th centuries BC, and the archaeological findings prove that Phrygians also lived in the city. In the 4th century BC, Alexander the Great conquered Anatolia (Aktüre, 2000:6 in Mutlu, 2012). In 85 BC Ankara started to be governed by Roman governors and during the reign of Augustus in 21 BC, it became the capital of Galatia province. At that time, Ankara was a very prosperous city with a population of 100.000 inhabitants (Dinçer, Ayan, 1987 in Mutlu, 2012). Throughout the Byzantine Period, Ankara maintained its significance. At the end of the 11th century Ankara was conquered by the Turks and the Seljukid period started in the middle of the 12th century. Ankara was again an important city in the Ottoman Period until 19th century. As Ankara could not compete with the industrial development in the world, it lost its significance and got poorer



through the end of 19th century. After being selected as the new capital of the new Turkish Republic in 1923, Ankara got into a period of planned growth and development (Dinçer, Ayan, 1987 in Mutlu, 2012).

As a result of such a long and multi-cultural history, there are lots of archaeological remains and buildings belonging to different periods. In and around Hacı Bayram District, which is located within the boundaries of Ankara Historic City Center – Ulus Renewal Area, the remains of different civilizations are visible.

### 3.1 RETROSPECTIVE VIEW TO THE DEVELOPMENT OF HACI BAYRAM DISTRICT

The area today called as “Hacı Bayram District” was first mentioned in Phrygian Period, according to Akurgal (1990) Hacı Bayram District was the Acropolis hill of that time. It continued to be the Acropolis hill also in the Roman Period and the area gained importance with the construction of “Augustus Temple”, over an earlier temple dedicated to Kybele and Men between 25-20 BC, under the reign of Augustus. On the north-eastern wall of Augustus Temple, *Res Gestae Divi Augusti* (the Deeds of the Divine Augustus) is carved. *Res Gestae Divi Augusti* is the funerary inscription of Augustus - the first Roman emperor and gives the first-person record of his life and accomplishments.



**Figure 2: Urban Development of Ankara: From Phrygians until today.**  
**Source: Bölükbaş et al. (2013)**

Hacı Bayram district maintained its sacred importance throughout history and has been the religious center, Acropolis hill of the city. In the 15th century, with the construction of Hacı Bayram Mosque in the Ottoman Period, the area continued to be a sacred place also in the Islamic period. The co-existence of Augustus Temple and Hacı Bayram Mosque assign a unique character to the site, since Hacı Bayram District has been the religious center of the city for different religious groups throughout history.

Hacı Bayram District is described in the nomination file for being enlisted in UNESCO World Heritage Tentative List as follows:

“From the earliest periods, Hacı Bayram area had been the Acropolis of Ankara. Starting from 8th century BC., the place has been an acropolis, the sacred places of Christian and Muslim people were built on top or near to each other. The most important piece that is apparent, is the Augustus Temple from the Roman Period dated to 2nd century BC, which was constructed after Galatia was conquered by Emperor Augustus. Today, some other

archaeological remains are over ground.” (UNESCO WHC, 2016)



**Figure 3: Hacı Bayram Mosque and Augustus Temple, plan drawn after the German excavations in 1926. Source: Güven, 1998 (left) Old photo of Hacı Bayram Camii ve Augustus Tapınağı. Source: VEKAM Archive (right)**

As the name of the enlisted property – Hacı Bayram Mosque and its Surrounding Area (Hacı Bayram District) – suggests, the existence of Hacı Bayram Mosque is emphasized for the nomination of World Heritage tentative list. The co-existence of Augustus Temple and Hacı Bayram Mosque is unique and may mean a lot for the nomination. However, it is only described in a very small part of nomination file as follows:

“The co-existence of the Augustus Temple, the Hacı Bayram Mosque and the nearby tomb tangibly evidences that the area is a significant example of a multi-cultural and multi-religious site and continuity of diverse cultural, ethnic and religious communities.” (UNESCO WHC, 2016)

Hacı Bayram District and the monuments have legal conservation status. Hacı Bayram Mosque and the nearby tombs were registered as a ‘monument’ in 1972. The Augustus Temple was also registered as ‘monument’ in the same year. The mosque, temple and the immediate surrounding were registered as an ‘urban’ conservation area in 2008 (UNESCO WHC, 2016)



**Figure 4: Traditional Residential Buildings in Hacı Bayram District. Source: Sağdıç, 1994**

Hacı Bayram District has been subject to many planning and urban design project. The transformation and development of Hacı Bayram District can be traced on different documents such as old photographs, old city maps and aerial photographs taken in different time periods since 1924.

During Ottoman period, the area is a residential district. There are houses very close to mosque and even the houses adjacent to Augustus Temple is seen from old photographs and old maps. During Ottoman period, the mosque was used but Augustus Temple was ignored due to the lack of awareness and knowledge to archaeology. However, no physical damage was given to temple consciously.

After the foundation of secular Republic of Turkey, there was a growing interest in

archeology. In the early years of Turkish Republic, buildings very close and adjacent to Augustus Temple was demolished and the site was converted into open-air museum. At that time, togetherness of mosque and temple was important.



**Figure 5: Hacı Bayram Mosque and Augustus Temple as “open-air museum”.**

**Source: Sağdıç, 1993**

As time passes, Hacı Bayram District transforms into depressed urban area. The residents left the district and moved to new neighborhoods in Ankara. As they left, new residents who were mostly immigrants from rural areas and urban poor settled to traditional houses in the district. During that time, the site lost its significance and characterized with safety problems and criminality. A certain period of time, the surrounding open area of Hacı Bayram Mosque and Augustus Temple was used as car park.

In 1986, “Ulus Historic City Center Planning Competition” was established by Ankara Metropolitan Municipality and “Hacı Bayram District” was also inside the competition zone. The winning plan was proposing a “square” in front of Hacı Bayram Mosque and Temple Augustus in addition to new buildings with commercial uses next to square by demolishing some traditional buildings. In 1990, the square and new buildings was constructed.



**Figure 6: Hacı Bayram District after the implementation of competition project.**

**Source: Google Earth (left), The Chamber of City Planners Ankara Branch Archive (right)**

In 2006, “Ankara Historic City Center – Ulus” renewal area was declared by the council of ministers and Hacı Bayram District obtained new legal status. In the scope of the renewal project, “Hacı Bayram Square Urban Design Project”. This project transformed the heritage site as a result of Ottoman architectural style of new interventions.

These projects transformed the heritage site, however, the focus of this study is on the latest intervention on the heritage site, “Hacı Bayram Square Urban Design Project”. This last intervention changed and possibly misrepresented the heritage values of the site and transformed it into a new historic urban landscape. As a result of the “Hacı Bayram Square Urban Design Project”, Augustus Temple has lost its value and meaning due to the emphasize on the value of Hacı Bayram Mosque and ignorance of Augustus Temple.



**Figure 7: Hacı Bayram District Under Construction for the implementation of renewal project. Source: A. Güliz Bilgin Altınöz**

#### **4 EVALUATION AND ASSESSMENT: CHANGING VALUES OF HACI BAYRAM DISTRICT IN ANKARA, TURKEY**

Multilayered heritage site characteristics of Hacı Bayram District were obvious prior to implementation of the urban design project. With Hacı Bayram Square Urban Design Project, the Augustus Temple is ignored, the Ottoman layer of the District was emphasized and the values related to Ottoman layer were highlighted in a selective manner.

The Urban Design Project led to changes in different values of the heritage site including authenticity, informational, uniqueness, rarity etc. The coexistence of mosque and temple states the multi-religious and spiritual identity of the heritage site. Hacı Bayram District has an inclusive religious value due to having been a religious center for many beliefs throughout history. However, as a result the urban renewal project implemented in the district, the religious values coming from the presence of the Mosque came to the forefront and the the archaeological values of the Augustus Temple were disregarded. Thus, the Temple has been transformed into an “ordinary” structure, which is presented to the public only with a single interpretive panel. Moreover, the ornamental pool built next to the Temple physically damages it. This damage triggers further destruction of the temple over time, as it causes the destruction of the cultural and historical values of the temple. As a result of the emphasis on the Mosque, the values of rarity and uniqueness of Hacı Bayram District resulting from the co-existence of the Mosque and the Temple are destroyed.



**Figure 8: Augustus Temple, Ornamental pool next to Augustus Temple in the foreground, “new” traditional buildings in the background. Source: A. Güliz Bilgin Altınöz**

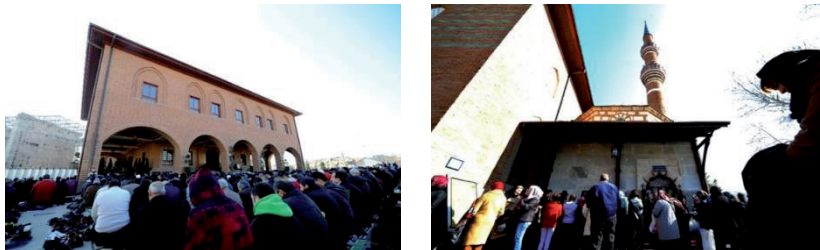
New buildings were also constructed in Hacı Bayram District. The Acropolis Hill of the ancient city of Ankara has been damaged to construct an underground car park and underground Mosque extension. The new “pseudo-traditional” architectural language

of the new buildings in Hacı Bayram District, which refers to the Ottoman architecture, now characterize the district. Currently, the contemporary interventions can not be distinguished and recognized. Thus, the whole district seems to be historic, but the information that heritage transmits is incorrect and “dishonest”, which is problematic in terms of conservation theory.



**Figure 9: “New” Buildings in Hacı Bayram District. Source: ankara.bel.tr**

With the Hacı Bayram Square Urban Design Project, Augustus Temple has lost its meaning and significance and it has been transformed into an “ordinary” physical structure by unraveling its heritage values. Today, the area is visited mostly by people who come to Hacı Bayram Mosque and the nearby tomb to pray and make a vow.



**Figure 10: Visitor practices in Hacı Bayram District. Making a vow in tomb and praying in mosque. Source: Ankara.bel.tr**

Many of the new buildings constructed within the scope the project was given to religious foundations by the Ankara Metropolitan Municipality in order to be used as offices, education centers and dormitories. In addition, there are bookstores which only sell religious books in the area. However, there were different uses in “Hacı Bayram District” throughout the years: the district was residential area during Ottoman period while commercial and residential area during the early Republican period. Recently, especially after 2012 with the implementation of “Hacı Bayram Square Urban Design Project”, there are mostly religious uses in the area which contradicts to the prior characteristics of heritage site. As a result of the high number of religious foundations and bookstores in Hacı Bayram District, today the area is mostly used by people who visit these buildings. Thus, diversity in uses and people visiting the area can not be observed anymore. With Ottoman architectural language of new buildings and religious uses, current ideology in power established new religious center at the hearth of Ankara – the capital city of the secular country.

## 5 CONCLUSION

Current interventions in several heritage sites in Turkey has resulted in radical changes in the values that cultural heritage sites involve. These changes result from the different economic, political, ideological and religious motivations of decision makers,

especially local governments. The value changes resulting from the interventions in Hacı Bayram District are only one of many examples in Turkey. As in the case of Hacı Bayram District, the interventions transformed the values of the site and thus, the character of the heritage and the information it provides: the political, religious and social values as well as the use of the heritage site have drastically changed. However, for the preservation and sustainability of heritage sites, the different values that a site involves must be considered in the decision making process.

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# DISTRIBUTION OF GOODS CIRCULATION AND SERVICES TAX REVENUE AS A MECHANISM FOR SAFEGUARDING CULTURAL ASSETS: AN ANALYSIS OF THE MINAS GERAIS STATE'S PROGRAM

**Wilian Daniel Henriques Amaral<sup>1</sup>, Guilherme Valle Loures Brandão<sup>2</sup>, José Alberto Barroso Castañón<sup>3</sup>**

<sup>1</sup> Universidade Federal de Juiz de Fora (UFJF), Faculdade de Engenharia, Programa de Pós-Graduação em Ambiente Construído, Rua José Lourenço Kelmer, S/N, 36036-900, Juiz de Fora, Minas Gerais, Brasil, e-mail: [wilian.amaral@engenharia.ufjf.br](mailto:wilian.amaral@engenharia.ufjf.br)

<sup>2</sup> Universidade Federal de Juiz de Fora, Faculdade de Engenharia, Programa de Pós-Graduação em Ambiente Construído, Rua José Lourenço Kelmer, S/N, 36036-900, Juiz de Fora, Minas Gerais, Brasil, e-mail: [guilherme.loures@engenharia.ufjf.br](mailto:guilherme.loures@engenharia.ufjf.br)

<sup>3</sup> Universidade Federal de Juiz de Fora, Faculdade de Engenharia, Nucleo de Ergonomia, Segurança e Transportes, Rua José Lourenço Kelmer, S/N, 36036-900, Juiz de Fora, Minas Gerais, Brasil, e-mail: [jose.castanon@ufff.edu.br](mailto:jose.castanon@ufff.edu.br)

## ABSTRACT

This paper presents a discussion under Minas Gerais legislation n° 13,803 from December 28<sup>th</sup> 2000, further modified by state law 18,030 from January 12<sup>th</sup> 2009 which consists in regulating a portion of the goods circulation and services tax (ICMS in Portuguese) paid in return to state municipalities. These legislations contemplate several criteria and they are pioneers in the Brazilian legislation to consider cultural heritage listed among them, remaining the only example in the country to this date. Although considering many important factors towards heritage conservation and cultural promotion, there are still some details to be improved and it must be considered a complementary action towards heritage conservation together with federal and municipal programs. After a case study, it is possible to say that even though this is a good initiative, the final amount destined is not enough to cover the expenses and investments required to a proper cultural and heritage conservation management.

Keywords: Heritage protection / ICMS cultural / Protection policies / Conservation management

## 1 INTRODUCTION

The Brazilian thinking upon heritage safeguard and protection has been developed since the first years of the 20<sup>th</sup> century, with many individual and local initiatives leading to promulgation of decree 25<sup>th</sup> from November 30<sup>th</sup>, 1937. This decree instituted the heritage listing instrument, the first nationwide regulated one, by the National Service of Historical and Artistic Heritage (SPHAN), currently known as the National Institute of Historical and Artistic Heritage (IPHAN), the main public agency on historic and cultural assets matters.

Over the decades, the efforts to develop a legislative framework aimed to protect the cultural heritage in the country has enabled the accumulation of significant experiences and knowledge in the studied area. Nevertheless, legislation and public policies were



directed in a relatively ethnocentric way, privileging the preservation of the part of cultural heritage linked to European influence or ecclesiastic and official government sites, marginalizing Brazilian popular culture and the sites directly linked to everyday life and expressions (Vianna 2004).

Despite the evolution on perception concepts and cultural heritage protection and preservation instruments, it is noted that until the beginning of the 21<sup>st</sup> century the official actions were mainly directed to tangible assets. The 1998 Brazilian National Constitution – drafted after the end of the political dictatorial regime – aiming to reorient the direction of public policies, formalizes the immaterial dimension of cultural heritage and recognizes Brazilian popular culture as a national interest matter, also recognizing expressive and referential symbolic universes of cultural wealth that constitutes the national patrimony (Vianna 2004).

However, these immaterial aspects presented in the 215<sup>th</sup> and 216<sup>th</sup> articles of the Constitution were only later regulated in the year 2000 by the national decree number 3,551 from August 4<sup>th</sup>, which institutes the Immaterial Cultural Assets Registry and the creation of the National Immaterial Heritage Program (PNPI). Since then, many legal instruments and official government programs were created to safeguard, protect and promote the cultural heritage by the three government levels in the Federative Republic of Brazil.

In this paper, the authors analyze Minas Gerais state law number 18,030, dated January 12<sup>th</sup> 2009, which governs the distribution of Goods Circulation and Services Tax (ICMS) revenue among the state’s 853 municipalities. This law is a pioneer in Brazil by including the management, preservation and promotion of cultural heritage as one of the determining factors for transferring part of the tax quoted by the state of Minas Gerais to the municipalities. Until this date, it remains the only legislation among the Brazilian’s states that deals with taxation financial resources transfer with this final objective.

## 2 APPLICATION REQUIREMENTS

To apply for the benefits provided by this state law, all municipalities must fulfill a series of requirements towards its heritage management, protection and safeguard that are briefly presented on the following tables and subsections:

**Table 01: Requirements for applying**

	<i>Requirement</i>	<i>Definition</i>
<i>Heritage Management</i>	Cultural Heritage Protection Municipal Policy and Other Actions	Implementation of a local cultural heritage protection municipal policy, developed by the municipality within the framework of a cultural policy.
	Investments and Financial Expenses in Protected Cultural Heritage	Creation of the Municipal Heritage Preservation Fund (FUMPAC) and the management of its resources; investments and/or expenses from other financing sources for cultural assets listed or inventoried material and/or registered intangible assets.

**Table 01: Requirements for applying (continuation)**

	<i>Requirement</i>	<i>Definition</i>
<i>Heritage Protection</i>	Cultural Heritage Protection Inventory	Elaboration of the plan and the execution of Cultural Heritage Inventory by the municipality
	Tangible Assets Listing Processes	Tangible assets listing at the municipal level - Urban Historical Center (NH); Urban or landscape complexes located in urban or rural areas (CP); Immovable Assets, including their respective movable and integrated assets collections, if applicable (BI) and Movable Assets (BM). Only definitive heritage listing processes are considered.
	Intangible Assets Registration Processes	Intangible assets registration processes at the municipal level. Only definitive registration processes are considered.
<i>Heritage Safeguard and Promotion</i>	Protected Heritage Conservation Technical Reports	Specific conservation status reports, which inform the effects of the heritage listing upon the asset, at municipal level.
	Actions Reports and Registry Protected Assets Safeguarding Plan Implementation	Oversight actions and implemented safeguard intangible heritage plan, on municipal level, which reports the continuity of the specific procedures of each registry.
	Heritage Education Programs in Various Development Areas	Education projects preparation and the performance of heritage education activities, at municipal level.
	Diffusion	Spreading actions such as publications and other actions arising from research programs and the cultural heritage of the municipality dissemination.

**2.1 HERITAGE MANAGEMENT**

In this section, the state government will evaluate how each municipality manage its own heritage by fulfilling a series of required documents divided into two major sections:

**2.1.1 Municipal cultural heritage protection policies and other actions**

Which must be presented to IEPHA/MG under a list of documented proceedings about the actual existence and implementation of such protection policies throughout a preservation policy. The evaluation consists on checking a series of topics covering the various aspects of heritage management such as technical team, technical activities, protected assets monitoring, participation on the Municipal fund for Cultural Heritage Preservation (FUMPAC) management, the actual municipal legislation and the adhesion to state policies, as briefly described on the following table.

**2.1.2 Protected cultural assets investment and financial expenses**

Presented to IEPHA/MG authorities under a relation of documented proceedings under the creation of a FUMPAC and its resource management on investment and/or expenses originated from other financing sources on protected or inventoried concrete cultural assets and/or registered immaterial assets. The goal on creating a FUMPAC is subsidize actions towards maintenance, preservation and promotion of cultural

heritage in a way which material asset decharacterization and improve immaterial asset appreciation. Municipal culture funding will not be accepted in this case for it can be used into more diverse ends although it can be used to promote cultural development.

## 2.2 HERITAGE PROTECTION

Heritage protection can be manifested under a series of actions and activities concealing technical staff, cultural objects and vectors, as described on the following table:

**Table 2: Municipal cultural heritage protection division**

	<i>Requirement</i>	<i>Definition</i>
<i>Technical team</i>	Professional qualification	Ensure the cultural assets management actions effectiveness, through the maintenance of a qualified technical team
	Recycling courses participation	To ensure continuous formation for the cultural heritage technicians improvement, courses with a minimum four hours of duration, exclusively in law, special funds management, architecture and restoration theory, historiography, education, environment, cultural management and tourism related to the patrimony areas are suggested.
<i>Technical Activities</i>	Assistance to the Municipal Heritage Council	To stimulate the relationship between the various local actors of the cultural heritage protection municipal policy.
	Development and monitoring of heritage listing, registration and inventory processes	Encourage the sector to consolidate itself as a cultural heritage local politics executive body.
<i>Protected Assets Monitoring</i>	Oversight and technical visits	Activity developed by the Sector's technicians with the objective of guaranteeing the protection effects on the listed, registered or inventoried cultural heritage.
	Maintenance work and/or restoration and/or conservation actions on listed, registered or inventory heritage.	The protected assets restoration, conservation and maintenance actions must always be executed with rigor and technical knowledge, including the project, budget, funding and management of resources, bidding process, hiring specialized company, monitoring all the work stages and providing project registration at Incentive Laws or Funds and others.
	Registered Assets Safeguard Actions Support	Promote the intangible cultural assets valuation through safeguard actions foreseen in the Safeguard Plan.
	Participation in Cultural Heritage Municipal Fund (FUMPAC) management	Strengthen the Prefecture's Heritage Sector as an executive body for the cultural heritage protection municipal policy.

To ensure this section liability, documents must be fulfilled in three different sectors:

### 2.2.1 Cultural heritage protection inventory

Consisting on a list of documented proceedings to be informed to state government

authorities about the municipal cultural heritage inventory plan creation and execution.

An inventory is an instrument for cultural heritage protection foreseen by the article 216<sup>th</sup> of the Brazilian national constitution (Brasil 1988) and provides recognition for cultural assets by having the objective to protect it and provide aid for the municipal management further improving cultural heritage conservation and promotion.

On its first year, the inventory plan shall be elaborated relating the timeline development steps to an action plan. On further years, the municipality shall execute the inventory according to the criteria previously planned. In the end, the municipality must update all the information contained in the inventory and disclose all the accomplished actions.

### 2.2.2 Material asset protection processes inside the municipality

The protection of heritage assets is an instrument for maintaining cultural values such as historical, symbolical, architectonic, artistic, urbanistic, landscaped, etc. the asset in question must have identity, action and memory reference as a unit or a set to all the different groups on a society.

The processes comprise the proceedings to be documented and informed about asset protection processes inside the municipal spheres such as: urban historical nucleus (NH), urban landscape sets located on rural zones (CP), fixed assets and their mobile and integrated collections, when occur (BI) and mobile assets (BM).

### 2.2.3 Immaterial assets registry processes inside the municipality

According to the UNESCO's Convention for the Safeguarding of the Intangible Cultural Heritage, held in Paris, 2003, immaterial cultural heritage can be understood by the practices, representations, expressions, knowledge and techniques among with the instruments, objects, artifacts and cultural places associated to them – in which the communities, groups and in some cases individuals recognize as an integrant part of their cultural heritage. This immaterial heritage is transmitted throughout generations and its constantly being recreated by the communities and groups according to their environment, their interaction with nature and their history, giving birth to an identity and continuity feeling that contributes to the promotion of respect to cultural diversity and human creativity.

A register is an instrument of protection to immaterial nature assets consisting on a list of proceedings to be documented and informed to the corresponding authorities about the immaterial asset registry processes on municipal levels. Only current cultural manifestations can be registered and only definitive registers will be taken into account when submitted to evaluation.

## 2.3 HERITAGE SAFEGUARD AND EDUCATION

Heritage relies on safeguard and education to be perpetuated throughout the years in a certain region. Policies and other legal measurements can aid this enforcement and some alternatives are presented below:

**Table 3: Municipal cultural heritage protection division**

	<i>Requirement</i>	<i>Definition</i>
<i>Legal aspects</i>	Urban planning legislation	The urban legislation (Master Plan, Land Use and Occupancy Law, Municipal Environmental Legislation, etc.) should provide municipal cultural heritage protection means by defining special areas and parameters for intervention in areas which shelter protected cultural heritage, among other actions.
	Tax revenue municipal incentive legislation	Legislation which includes total or partial immunity of Urban Land Tax (IPTU) payment to owners who preserve their property listed, registered or inventoried with indication for listing as cultural heritage; Tax over services (ISSQN) reduction for companies or individuals that settles in cultural assets listed, registered or inventoried, in addition to public financing lines for the restoration of protected cultural assets (listed, registered or inventoried).
<i>Adherence to state policies</i>	Participation in inventories and other regional and state protection processes	Policies periodically established by the Minas Gerais State Institute for Historical and Artistic Heritage (IEPHA/MG), based on its Inventory plan for the State.
	Participation in the Minas Gerais State Cultural Heritage Day	Activities developed by the municipality in the months of August / September in accordance with the public notice published by IEPHA / MG.

To promote heritage safeguard and education, a series of documents must be produced to ensure its liability. Minas Gerais state law preconizes the following document sets.

### 2.3.1 Technical reports on the conservation state of protected heritage material sets on the municipal sphere

These must inform on a year basis the state of conservation of the assets as well as every intended or proceeded intervention on assets protected under federal or state spheres must be previously approved by the competent authorities and must provide detailed image and technical documentation.

### 2.3.2 Action implementation reports / Registered assets safeguard plan execution

In the following years after the register, up to the first decade, the municipality must present reports on the safeguard implementation actions containing detailed information regarding every executed action and all measures taken must be proved through media releases plus photographs and/or videos.

After the first decade, the municipality must present a revalidation report proving the continuity of the cultural practice in question.

### 2.3.3 Heritage oriented educational programs

Documented sets of formal and informal educational processes and programs towards acknowledgement, appreciation, and preservation of cultural heritage in its diverse expressions (IPHAN 2014). The processes for education towards cultural heritage must consider the knowledge democratization and promote a permanent dialog

amongst the population and the culture agents along with effective participation of the communities who detain and promote cultural references.

Such programs can occur under seminars, open talks, forums, and similar formats towards the general public or specific groups on the local community encompassing themes like material and immaterial cultural objects and/or heritage, history, identity and culture. The programs can take place under schools, open spaces and collective heritage sites.

#### 2.3.4 Cultural heritage propagation

Municipalities can present products and materials to propagate cultural heritage having research and knowledge exchange publications, didactic and playful material, promotional prints, movies, games and other related products will be considered to evaluation purposes by the authorities.

### 3 DISCUSSION

After the IEPHA/MG analysis and the ratification of every presented requirements by the city halls, a list is made available containing the city total score which will compose the heritage index calculation (PPC), consisted on the ratio between the city obtained score and the combined score of every other city enrolled in the program. On table 04 are presented the final scores and the PPC of a few cities as well as the values received in the year of 2016, for discussion purposes.

The proceedings for documentation organization and delivery is extremely bureaucratic, making it difficult to small city halls with smaller personnel and or deficient of a heritage safeguard bureau to have a broader participation in the addressed program. It is worth mention that Minas Gerais State is composed by 853 municipalities, a lot of them showing low population indexes and little relevance in the heritage scenario, being as well cities with relative new date of foundation, which suggest their low PPC scores.

**Table 4: Comparison between different city's scores**

City	Total assets presented	Federal protection	Score	PPC	ICMS Cultural
Ouro Verde de Minas	1	1	0,6	0,001	R\$ 0,00
Belo Horizonte	159	6	10,1	0,0018	R\$ 162.047,91
Juiz de Fora	118	3	13,5	0,0023	R\$ 224.386,36
Serro	26	9	30,6	0,0053	R\$ 536.957,11
Ouro Preto	70	49	55,2	0,0096	R\$ 925.025,13
Mariana	35	22	58,5	0,0102	R\$ 888.429,20

By analyzing the table above, it is possible to perceive that the cities with higher PPC scores are not those with higher registered assets. The PPC score accounts for the asset relevance beyond the local sphere, and points are given by relevance in a municipal, state or federal level.

It is worth mentioning that cities with higher scores (due their higher number of protected assets in a federal level) are those which were founded, developed and have urban nuclei remaining from the Brazilian colonial period, specially from the gold and

diamond cycles in the Minas Gerais state, which puts in evidence a tendency from the national Artistic and Historical Heritage Institute (IPHAN) to privilege the protection on assets from this era and neglect the remaining and more recent ones.

The monetary numbers shown were obtained through the Fundação João Pinheiro does not reflect the actual amount owned from the state authorities to the municipalities, instead it only shows the amount received by the municipalities. Therefore, a discrepancy between cities with higher PPC scores and lower cash flow can be noted. Another possibility refers to the request of emergency funds from the ICMS Cultural tax to priority government sectors such as health and education upon substantiated explanation.

This funding transfer question must be addressed with caution since it opens a window for city halls to reroute extremely needed heritage safeguard funding towards other non-culture and heritage related areas.

In relation to the transferred amounts, it can be perceived that although the ICMS Cultural program have great importance, it must be understood as subsidiary to other actions that seek fundraising towards heritage protection, promotion and safeguard, once the total amount received aren't enough when the number of protected assets and their needed care along the year are accounted. Public and private investments are still needed.

## **4 CONCLUSIONS**

This paper presented the Minas Gerais state's "ICMS cultural" program, which reserves a percentage of the tax owed by the state to municipalities for protecting and safeguarding the state's cultural heritage purposes. Although being a broad and an important initiative in the discipline, the program has some inconsistencies that may hinder its effective application, such as excessive bureaucracy to register the PPC score and the possibility of reallocating resources in priority areas of the state (health and education) if requested and justified by the city hall.

The amounts transferred also seem insufficient to cover the total cost, especially considering the large protected assets volume and their specific conservation needs on cities such as Ouro Preto and Mariana. Therefore, it is concluded that the program should be understood as a subsidiary step to several other necessary actions on obtaining funds to ensure the protected heritage's safeguard.

It is advisable that the amounts received through the program should be directly destined to effectively common property assets, since although the protected assets have in part a common dimension, if they are privately owned, it becomes incompatible with state activity spending public resources in their maintenance beyond the legally provided tax benefits. In such cases, the private owners are responsible for the maintenance of the property and must seek for public-private partnerships, facilitated by public agencies, if they are unable to assume the costs.

Finally, we conclude that the program is an important public initiative in the sector, requiring minor corrections and updates without, however, being ineffective in its current assignments.

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# PUBLIC POLICIES FOR THE PROTECTION OF BRAZILIAN ARCHITECTURAL HERITAGE: A CASE STUDY

**Aline Eyng Savi<sup>1</sup>, Liliana Esteves<sup>2</sup>, Julia Marcello Dal Molin<sup>3</sup>, Lays Juliani Hespagnol<sup>4</sup>**

<sup>1</sup> Laboratório do Núcleo de Teoria e História (LABNETH), Curso de Arquitetura e Urbanismo, Universidade do Extremo Sul Catarinense - Av Universitária 1105, 88806-000 Criciúma/SC, Brasil, e-mail: arquiteta.alinesavi@gmail.com

<sup>2</sup> Laboratório do Núcleo de Teoria e História (LABNETH), Curso de Arquitetura e Urbanismo, Universidade do Extremo Sul Catarinense - Av Universitária 1105, 88806-000 Criciúma/SC, Brasil, e-mail: lilianaestevesm@gmail.com

<sup>3</sup> Same for subsequent authors Laboratório do Núcleo de Teoria e História (LABNETH), Curso de Arquitetura e Urbanismo, Universidade do Extremo Sul Catarinense - Av Universitária 1105, 88806-000 Criciúma/SC, Brasil, e-mail: juliamarcello.dm@gmail.com

<sup>4</sup> Laboratório do Núcleo de Teoria e História (LABNETH), Curso de Arquitetura e Urbanismo, Universidade do Extremo Sul Catarinense - Av Universitária 1105, 88806-000 Criciúma/SC, Brasil, e-mail: laysjulianih@hotmail.com

## ABSTRACT

The urban-architectural cultural heritage is a socially constructed image that plays an important role in the elaboration of reality, including memory and identity, helping to present temporality and the environment of social history through the maintenance, construction and replacement of buildings in the landscape. In the southern region of Brazil, the immigrants left strong marks through the constructions of the city of Criciúma. Today, we live with public policies that distance our heritage from social life, through reconstruction and the false "updating" of architecture. Reflections present the manipulation of collective memory as a political mechanism to impose, often veiledly, new identities. The value of the use of the patrimony becomes an economic value, breaking with the affective bond that unites the inhabitants to the place.

Keywords: Public policies / Urban / Architectural / Cultural Heritage / Brazil

## 1 INTRODUCTION

One of man's strongest interrelations is built by his identity and history. Present and future generations inherit a legacy transmitted by their ancestors, called Patrimony. This can be defined as a set of material or immaterial goods that tell the story of a people through its architecture, clothing, accessories, furniture, the way of doing, among others.

Among the material patrimonies are the "urban-architectural cultural" made up of buildings and historical sites that reflect a certain epoch, popular and erudite culture and its hierarchy in society. Of these historical sites, cities have characteristics that bring a series of reflections, marking the beginning and the changes with the interference of the buildings in the landscape. The construction of the image of the patrimony is then, cultural part and depends on all the elements that classify it. In this way, the evolution of a city and its landscape is not only due to the construction or replacement of buildings, but also of its historic buildings.

In Brazil, with the support of the linear thinking paradigm of modernity, the urbanization process has overvalued the new one. In obvious neglect, the goods that materialize the history and memory of cities are neglected to the point of being replaced by new buildings and infrastructures with the promise of progress. The process is clearer in small and medium-sized cities, because its urban-architectural heritage is isolated in the urban network, and does not compose only monuments.

Time and again-for various reasons-there is a belated awareness of the importance of the well-built community, the actions, however, it only proposes to restore the properties that have already been demolished for the most part. Through the replicas, the practice is adopted as a public policy for the preservation of cultural heritage, replacing conservation and restoration actions.

Considering this process, the article aims to study and present the preservation policies adopted for urban-architectural cultural patrimony of the city of Criciúma, located in the state of Santa Catarina, southern region of Brazil. In the city, the reconstruction of replicas has been adopted as the only public policy for the preservation of cultural heritage. The treatment conferred by the public power to the conservation of historical patrimony in the municipality reflects a typical case of distancing the good both in relation to the city, as well as to the people. The reconstruction that is seen to maintain the historical significance of the work, ends up creating an image that distances itself from reality.

## **2 URBAN-ARCHITECTURAL CULTURAL HERITAGE**

Architecture is a fundamental element in the composition of urban memory, portraying the local identity. The city, however, as a social construction accompanies the dynamics and complexity of the relations established in it. In a world in which time is accelerated, the volatility of events distances the subjects of history and memory, creating a complex web that affects notions of identity. In this process, traditions change, adapting to new situations. As a spatial support of these relations, architecture is valued differently: what was valued at one time no longer makes sense in another (GISLON, 2013).

The urban-architectural cultural heritage has been lost in some cities that have great potential and historical baggage for such conservation. According to Kohlsdorf (1996), the architecture of the city was reduced to its functional aspect, putting an end to the relation between form and function that shaped the singular image of cities and composed the history of urban societies.

The term "single image" can be extended to the concept of urban landscape, which according to Cullen (1983) is the art of making the entanglement of buildings, streets and spaces constituting the environment visually coherent and organized, considering the changes with the Over the years. The heritage buildings make the urban landscape an easy-to-read image, a particular historical landmark that transcends the local memory.

As a way to avoid erasing from memory and to maintain the continuity relationship with the past, architecture becomes a powerful instrument. The urban-architectural patrimony is explored as scenario, selecting and manipulating the memory in order to re-signify the identity. This dynamic is based on the fact that the contemporary subject does not have a fixed identity, being more susceptible to changes in external conditions (GISLON, 2013).

In this logic, conservation of the urban-architectural patrimony gains importance. In many Brazilian cities, when it is no longer possible to preserve what remains of the urban landscape, the practice is to rebuild. But this reconstruction is selective: the public power chooses what, where and when to do it. The construction of replicas assumes, at the height of the process of spectacularization of the architecture. Patrimony is no longer part of the lived experience. At some point, the link that bound him to the present was broken. The image of the city that was singular, becomes a homogenous landscape, monotonous and confused.

### 3 TION OF THE CITY OF CRICIÚMA

Located in the state of Santa Catarina, in southern Brazil, Criciúma (Figure 01) is a city with 235,701 km<sup>2</sup>, and, according to the Brazilian Institute of Geography and Statistics (IBGE), census of 2013, has a population of approximately 202 thousand inhabitants. The municipality is located to 200 km of the capital Florianópolis towards the south, and is soother of the Association of Municipalities of the Carboniferous Region (AMREC).

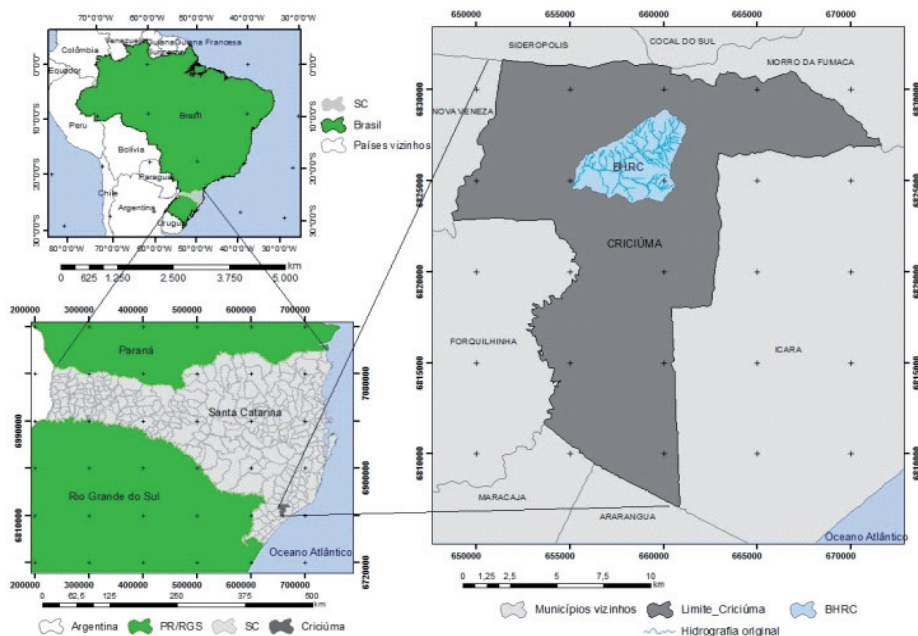


Figure 1: Located Brasil - Santa Catarina – Criciúma Source: ORIGE, et al, 2015

For many years, Criciúma was based on its economy the extraction of coal, making it known as the national capital of coal. Today, it has the only open coal mine to visit Brazil - Octávio Fontana Visitation Mine - inaugurated in 2011. Currently, the city's income originates mainly from the tile and tile industry, placing the city in the position of largest national producer And second world. Criciúma also grows in the metallurgical, chemical and civil construction sectors, and the clothing sector is the highlight, being the third largest national pole in the production of jeans.

### 3.1 HISTORY OF CRITICAL COLONIZATION

Criciúma was colonized on 6 January 1880 by twenty-two Italian families, which totaled 141 people. The journey of these immigrants after 30 days of sailing, was the arrival in Rio de Janeiro, and later the journey inland towards the south, in order to colonize the Brazilian lands that were not well populated. Although they had the aid of ox cars, many walked the route for miles, passing through Florianópolis and Laguna (important cities at the time).

Arriving in Criciúma, they lodged in a house that gave space preferentially for the women and the elderly. At that moment, a new - and arduous - journey began. In homage to the grassy vegetation that abounded the central lands, they named the newly arrived lands of "Cresciúma". Urban growth occurred along the stream - Rio Crisciúma - on a plain, which later became the Nereu Ramos Square. In 1895, in this same place, the immigrants built a wooden chapel, being the first collective equipment of the city (Figure 02).



**Figure 2: First chapel of Criciúma. Central region, late nineteenth century Source: JOÃO SBRUZZI *apud* NASPOLINI FILHO, 2007**

The consolidation of the Square as the center of the city occurred because it was organized as a nodal point along the immigration route that linked two important cities: Urussanga and Araranguá. The centrality began to attract merchants and establishments that defined space as the main urban reference. Initially the square was basically residential, but in the 1930s, the single-storey houses were replaced by small and small buildings with shops on the ground floor and decorative references in Art Deco. During this period, the landscaping and design of the beds were delimited.

The important social, economic and historical characteristic justifies the fact that the main historical remnants of the current architecture are close to or close to it. However, the years passed and as the city grew and it was possible to perceive the (not always positive) transformation of historic buildings.

In Nereu Ramos Square, the positive economic moment at the beginning of the twentieth century, allied with the contribution of the faithful, valued the small chapel and brought with it the need to transfer it to a more noble place (the other side of the Square) (Figures 03, 04 and 05). After the change, its immediate surroundings needed to accompany this growth and the enrichment of the city. The square has been landscaped, with a design that remains today.

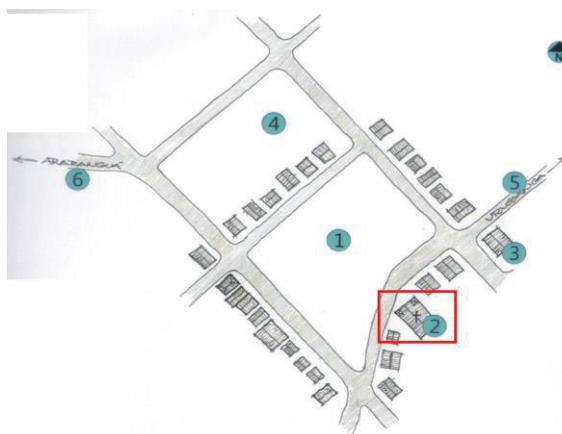


Figure 3: Nereu Ramos Square 1900s. Source: FELTRIN, 2012



Figure 4: Nereu Ramos Square 1950s. Source: FELTRIN, 2012



Figure 5: Saint Joseph Mother Church in the 1900s, 1920, 1950. Source: MUNICIPAL CITY OF CRICIÚMA, 2016

### 3.2 CRICIÚMA'S HERITAGE

The need to bring a new image of development and modernity to the city led to the

creation of a differentiated architecture, leaving behind the references brought by the settlers and following the precepts of modern architecture, more precisely Art Deco. The buildings that marked the perimeter of the square were demolished to create new works in style, causing much of the colonial architecture to be lost.

Understanding that the city had two important historical periods - the colonization and economic transformation of mineral coal - only the Art Déco movement is present. However, the city gradually hides behind advertising signs that seek to "upgrade" the Square that is still important public space.

Still of this second historical phase, there is the House of the Railway Agent and the Railway Station. From 1891, Criciúma began to have a diverse ethnic group with the arrival of the Germans, Portuguese, Arabs and Africans. The immigrants colonized lands that were not yet inhabited, but always having the central space of the city as a reference. As the city grew, there was a need to improve its infrastructure especially for the transportation of coal. The Dona Tereza Cristina railroad, which connected to neighboring cities, was built on the Dona Tereza Cristina railway, tracing an east / west route within the city limits.

In 1923, the transport of passengers was inaugurated in the line. Located in the central area of the city, a station marked the point of embarkation and disembarkation. With its simple and rational architecture, with few ornaments, it had a gabled roof inherited from the Italian constructions, it was possible to identify characteristics of the neocolonial architecture, with its wide rim supported by French hands, characteristic typical of the style.

In 1950, a new building was erected of larger dimensions, next to the old one that remained. Both served the population until the 1960s, when the need to build roads for the circulation of motor vehicles promoted the displacement of the main branch of the Federal Railroad Corporation - RFFSA.

The architectures remained, until the 1990s, when the Agent's House was abandoned and went into a process of ruin (Figure 06). In 1995, with the construction of the new Central Terminal of Collective Transportation, in an act of complete neglect with historical patrimony, behavior that has been reiterated over time in the municipality of Criciúma, the building was demolished during the night.



**Figure 6: Abandonment of the Agent's House in the 1990s and demolition in 1995**  
Source: MUNICIPAL CITY OF CRICIÚMA, 2016

## 4 CONCLUSIONS

In the search for a developmental evolution, the city of Criciúma carries in its path - mistakenly - the detachment to the past, causing an oversight with the constructed

patrimony, that gradually erases the history of the city. In the current scenario, this posture has resulted in demolished historic buildings and giving way to new buildings, which in the mistaken perspective of public management, represent the growth of the city.

The buildings that survived the impacts of time and man end up losing their visibility to their new, gigantic neighbors.

It was a long history of lack of incentive to the culture and of care with the patrimony that made Criciúma become a city without identity, where the existing historical buildings, instead of being part of a site inserted in the urban context, are isolated among new buildings. This fact makes the adopted practices of patrimony protection according to each case, and often, no action is taken.

The conservation of a heritage is the result of the union of practices not only of public policies, but also of the population as a whole. In Criciúma, patrimonial education was never present, making the residents themselves do not recognize the value of their buildings, causing neglect and abandonment.

One of the aspects that characterizes the center of the city - Praça Nereu Ramos - is the concentration of commercial activities. In Criciúma, the trade starts to compete with the built heritage, positioning its large plaques in order to hide a good part of the facades of the buildings. As if the act were no longer aggressive enough to the landscape, many of the landlords rent spaces on the facades of their buildings for the use of commercials, making the important points for cultural construction not sufficiently valued and often not even seen.

Another practice - again misguided - of the municipal public power is the treatment of the museification of the heritage creating, a glass tube that acts as an obstacle preventing it from exercising its main function, which is precisely to bring people closer to their past through the rescue of memory. With this, the local identity.

Parallel, the practice of reconstruction as a penalty to the demolitions made - even when these are authorized practices, after all none of the buildings has a law of preservation. In such cases, reconstruction would be a form of technical reproducibility of the work that would annihilate its "aura," its "here and now," the transformations of time and its historical testimony. Moreover, even if one argues that reconstruction, by preserving an aesthetic form, contributes to future generations having access to their past, in the case of those made in the city, they no longer integrate the urban fabric.

It is emphasized that it is possible to maintain urban vitality in an environment where it contains historic buildings, and that the presence of these buildings is not a reason to impede the growth and evolution of cities. What must be prevented from happening are the cases in which the transformations made by the man begin to compromise the urban landscape, interfering in the reading and recognition of these architectures.

The fundamental meaning of architecture as integration and stability conflicts with these practices. Architecture and the city tend to promote rapid consumption and appreciation of the moment: new experiences, at all times, move us to the future and authentic relations with cultural heritage are emptied. The social, spatial and historical decontextualization of this patrimonial conservation model breaks with historical experience, with memory and with collective identity.

The reflections present the manipulation of collective memory as a political mechanism to impose, often veiledly, new identities forged for consumption and reinforced by the mass cultural industry. The value of use of the patrimony is transformed into economic value, breaking with the affective bond that unites the inhabitants to the place.



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# CONSERVING *PLACES OF MEMORIES*: ON SOCIAL SIGNIFICANCE AND JUSTICE

Hélia Marçal

Departamento de Conservação e Restauro, Faculdade de Ciências e Tecnologia, Universidade NOVA de Lisboa, Ed. Departamental, piso 1 - Gab. 1.22, Campus da Caparica, 2829-516 Caparica, Portugal / Instituto de História da Arte, Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa, Avenida de Berna, 26-C, 1069-061 Lisboa, Portugal, email: hp.marcal@gmail.com

## ABSTRACT

This paper addresses the preservation of *places of memory* by reflecting upon two issues: (1) the importance of successfully assessing the social significance of a given conservation object, without disregarding its multiplicity, and (2) the relevance of communities for that process. An effective collaboration with communities, and the systematic documentation about the process is presented as a step towards a more complete and fair preservation of the intangible features, including the memories, of the object. In this context, examples from two buildings will be provided.

Keywords: Community / Social significance / Justice / Places of memory / Built heritage

## 1 INTRODUCTION

*A lieu de mémoire* [site of memory] is any significant entity, whether material or non-material in nature, which by dint of human will or the work of time has become a symbolic element of the memorial heritage of any community. (Nora, 1996: XVII)

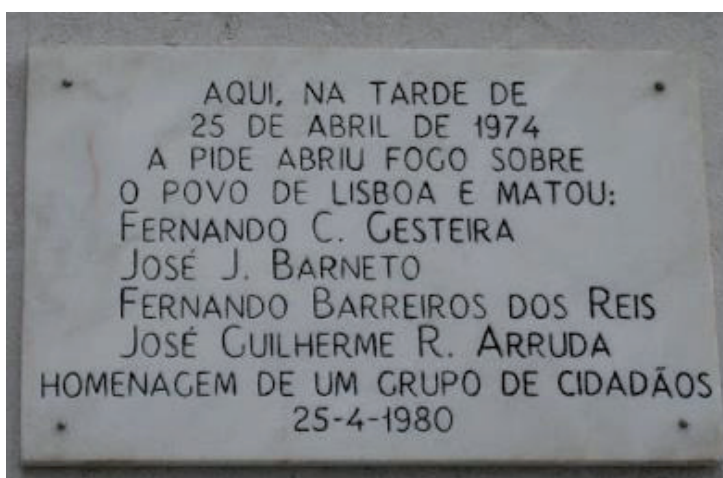
Portugal, April 25<sup>th</sup> 1974. After forty-one years of dictatorship, Portuguese people occupy the streets of Lisbon demanding a political change. This movement, also known as *The Carnation Revolution*, although planned by the left-wing military, is characterized by its great popular participation, and by being one of the few pacifist military-coups that happened in the 20<sup>th</sup> century. This dictatorship period (1933-1974), called *Estado Novo*, is characterized by great military oppression, with intense censorship, and prosecution of regime opponents, which were often imprisoned and tortured by PIDE, the International and State Defense Police (in Portuguese: *Polícia Internacional e de Defesa do Estado*), the regime's police, which became known as DGS after 1969. PIDE's (and DGS's) headquarters, located at António Maria Cardoso Street in Lisbon, was the stage of many episodes of torture and even painful death (Fig. 1). For many people that lived in that period, this address, this building, its front, and its interiors, are a symbol of repression and revolution. For this reason, this is a place (or a site) of memories.

The number 22 of António Maria Cardoso Street, in Lisbon is now a luxury condo (Fig.1). For the generation that was born after the revolution (and after the turbulent revolutionary process that lasted until the 1980s), this is just one more building in a busy street at the heart of Portugal's main city. This erasure of the building's history and of the memories of the community became even more drastic after the removal of the commemorative sign (Fig. 2), which referred to the events of April 25<sup>th</sup> 1974, in 2010 (due to the rehabilitation of the building) and in 2014 (after a robbery). After the

second removal, Lisbon's municipality interfered, and added a new sign, aiming at encouraging the preservation of memories of the building (Boaventura, 2014). The sign, however, lists the names of the people that were killed during the *Carnation Revolution* and does not mention the previous function of this heritage.



**Figure 1: Building at António Maria Cardoso Street, 22, Lisbon. Former headquarter of PIDE/DGS (until 1974 – photograph available at <https://desenvolturasedesacatos.blogspot.pt/2011/05/excertos-historicos-tenebrosa-pide.html>). After being sold, this building is now a luxury private condo (photo from 2014).**



**Figure 2: Commemorative sign present on the walls of António Maria Cardoso Street, 22, Lisbon until 2010 (photograph available at <https://desenvolturasedesacatos.blogspot.pt/2011/05/excertos-historicos-tenebrosa-pide.html>). Translation to English, by the author: “Here, in the afternoon of April 25<sup>th</sup> 1974, PIDE opened fire on Lisbon’s people and killed: Fernando C. Gesteira, José J. Barneto, Fernando Barreiros dos Reis, José Guilherme R. Arruda. An reverence from a group of citizens 25-4-1980”.**

Within a 15-min walk in the direction of Lisbon’s Castle (*Castelo de São Jorge*), it is possible to find Aljube’s prison (Fig. 3), which was used by the PIDE until 1965, when it was closed after multiple complains, including from the International Amnesty (Oliveira, 2012). In this prison, political prisoners were held and tortured for months, frequently living in small cells where they had to be permanently seated. Among its prisoners, it is possible to account for Miguel Torga, Álvaro Cunhal, and Portugal’s former Prime

Minister Mário Soares. Aljube is also one of Lisbon's oldest buildings, as it is one of the few structures that resisted to 1775's earthquake. For both reasons, this is a place of memories.

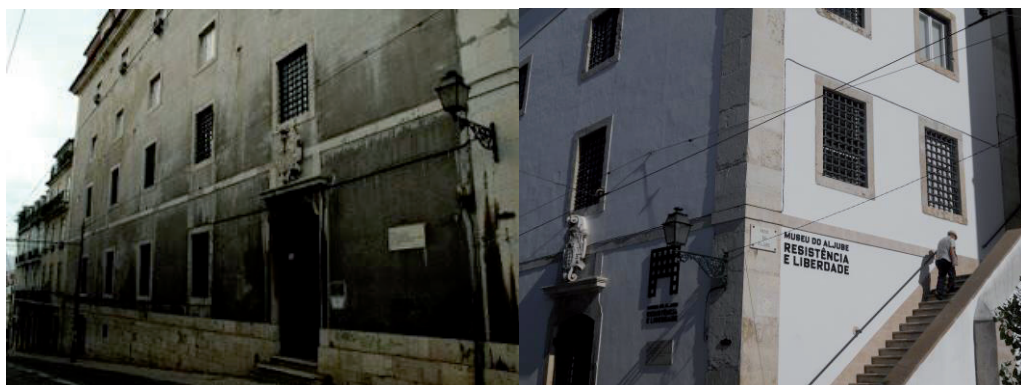


Figure 3: Aljube's prison (until 1965 – photograph available at <http://alvarocunhalbiografia.blogspot.pt/2010/12/moral-do-revolucionario-na-prisao.html>). Since 2015, this building is the home of Aljube's Museum (photograph available at <http://ocorvo.pt/2015/07/14/aljube-de-prisao-a-museu-da-memoria/>).

Nowadays, Aljube's prison is Aljube's Museum (in Portuguese *Museu do Aljube – Liberdade e Resistência*). Within its new role, there is a path towards the memorialization of the dictatorship, the resistance, the revolution, and of the multiple voices that are still unheard, the multiple stories that are yet invisible (*Museu do Aljube – Resistência e Liberdade*, 2015). This intention can be seen in the discourses of the exhibition space, as this museum without physical collection serves a vehicle of testimonies and as a receptacle of memories, as well as in the other spaces that are part of this Museum, which includes a documentation centre.

Comparing PIDE's headquarters with Aljube's prison it is possible to see two building rehabilitations: but while in the first case the memories of the place have been erased, in the second these memories are being praised, transmitted, and continually constructed. While these are extreme cases of erasure and memorialization, they can be used as operative tools in the examination of more nuanced issues that might occur in the conservation of cultural heritage. Where does the "original intention of the artist" ends, and the "social significance" of the artwork starts? When does conservation stop to be a process aiming at recovering the past, and starts replacing memories? Whose memories are being preserved, and where is the *social* in the object's meanings?

The aim of this paper is to reflect upon the conservation of the intangible features of tangible heritage. To achieve this goal, the notions of *conservation*, and of, within this context, *social significance* and *justice*, will be discussed.

## 2 TOWARDS AN EXPANDED NOTION OF CONSERVATION

Conservation theory has travelled a turbulent path throughout the years. While more classical theories suggested an overlapping between originality and authenticity concepts, being the physical, aesthetic and historical integrity of a given object,

conservation's primary scope, contemporary theories of conservation provide other frameworks to think about conservation practice.

The notions of *physical*, *aesthetic* and *historical integrity* have been developed in Brandi's *Teoria del Restauro*. This approach suggests that an object's identity intrinsically related to its materiality. In fact, according to Cesare Brandi (1963), an artwork is an artistic expression - a combination of different materials and techniques chosen by the artist; for that reason the final object maintains its authenticity with the permanence of those materials ("[the] object's *true nature*" – Brandi, 1963: 90).

In 2005, Salvador Muñoz Viñas explored this issue in his book *Contemporary Theory of Conservation*, suggesting that the search for the object's *true nature* usually regards its materiality, and does not count on its emotional or aesthetic response (Muñoz Viñas, 2005). This author then suggests a shift from a material-based conservation to an approach that focuses on subjects instead of objects (Muñoz Viñas, 2005: 147), making very clear that objects are contextual and contingent. Indeed, as referred by Erica Avrami et al., in the report *Values and Heritage Conservation*, published by the Getty Conservation Institute in 2000 (pg. 6), "we have come to recognize that conservation cannot unify or advance with any real innovation or vision if we continue to concentrate the bulk of conservation discourse on issues of physical condition".

While in theory conservation is considered an integrated process that encompasses many dimensions within a social frame (Avrami et al, 2000; Clavir, 2009), in practice the social dimension of objects has been overlooked in most conservation endeavours. That happens either by (1) successively disregarding communities as an interested stakeholder in the decision-making process (Henderson, 2016; Sloggett, 2009), or by (2) intervening into a given object to the point its history or context are lost (Muñoz Viñas, 2004). One good example of the latter is explored by Salvador Muñoz Viñas. As explain by the author, throughout history four artists painted the panel of Saint Lucy of the Williams College Museum of Art but after a restoration in 1983, the traces of three of those artists were irreversibly erased. According to the author, in this case, conservation "has changed the meaning of the object: it has made *one* of all the possible meanings prevail, at the expense of the other possible ones" (Muñoz Viñas, 2005: 170).

While principles such as *minimum intervention* could be a good starting point to avoid this issue, as suggested by this author, they are relative and thus their application is based on subjective accounts of what *minimum* means (Muñoz Viñas, 2009). Muñoz Viñas then suggests another principle - *balanced meaning loss* (Muñoz Viñas, 2009: 50). Instead of *minimum intervention*, this concept replies a notion of economics science, which determines that the best decision is the one that guarantees the least loss at the biggest gain. There is, however, some difficulty in the definition of what "least loss" and "biggest gain" really means. The question is: least loss and biggest gain for *whom*? That, again, looks forward to the issue of community representation in the conservation of Cultural Heritage. If *conservation's scope goes beyond the artwork's materiality*, and communities are bearers of Cultural Heritage intangibilities, is it possible an active participation of communities in the decision-making process could be a way to access and protect the object's multiplicity of meanings? In other words, could communities' recognition be the answer to protect object's *social significance*? And if communities are the vehicles to understanding the social significance of the object, the vehicles of its memories, could their active participation in the decision-making process be a way to make conservation a more effective process?

### 3 RESTORING THE OBJECT - RECOVERING ITS MEMORIES

Communities, together with owners, artists, and conservators, among others, are usually part of the stakeholders identified during conservation's decision-making process. While several cases in literature refer to community consultation, the majority does not specify what they mean by *community*, or the methodology used to make that consultation (interview, focus groups, etc.). First of all, the concept of "community" is very heterogeneous, and if some of the social groups and communities involved may easily be identified due to the development of formal or informal associations, in some instances the stakeholders are impossible to identify and, therefore, to reach in an effective manner (Waterton and Smith, 2010). Second, consultation is a term very broadly used, but rarely defined. What consultation really means?

Jane Henderson, in a study performed about collaboration showed consultation with dominant stakeholders such as the owner, "experts", and, sometimes, artists, has a clear prevalence over consultation with communities. Henderson concludes that where "consultation strays into the aspects of conservation practice and decisions that impinge on the physical manifestation of the object there is less ease with the community" (Henderson, 2016: 77). And when there is, in fact, interaction with communities, this detail remains absent of the conservation documentation that follows the object into future times (Henderson, 2016: 75, referring to a 2009 essay written by R. Sloggett). Although Henderson also explains that "*there seems to be an effective communication regarding the values of cultural heritage*" (Henderson, 2016: 77, emphasis added), it is important to reflect upon these values are being conveyed, and how social significance is being determined.

The social significance of a given object can be considered as its importance in a given social setting. M. J. Revez, for example, suggests that "institutions today evoke a multitude of values when assessing the importance of a heritage object – or, better said, its *significance*" (2016: 9). These values, however, are not uniformly understood nor applied. As explained by M. J. Revez (2016: 13), in a systematic search for value-system references, although there are many values ascribed to Cultural Heritage, *aesthetic*, *scientific* and *symbolic* values "make up for almost half of the found (...) references". And local communities are not usually questioned about the aesthetic or scientific values of a given object, or, actually of any value directly. The relative importance of values is usually assessed through indirect surveying. But how are communities being consulted? What kind of approach is being made, and by whom? What kind of questions are being asked?

It is known that context will influence the answer to a given question. At the same time depending "on the wording, framing and social context of the choice, which may include subjective meaning as well as perceived social norms" (Marçal et al. 2014, 2), conservator's cognitive biases might influence the decision-making process. For this reason, if the consultation process is successively forgotten in the developed documentation, how can we know how the object's social significance was determined? How can future generations evaluate the consultation process and how that influenced the conservator and the decision-making process? And how can the multitude of values that are ascribed to a given object be part of the decision-making process, if conservation fails to reflect upon the ways they were determined?

About this issue, E. Avrami et al (2000: 10) states:

[T]he conservation field needs to know a great deal more about the nature of the role of conservation in society — how it is changing, who participates, and so on. At a more

empirical level, we need to know how the values of individuals and communities are constructed with regard to cultural heritage, how these values are represented through an assessment of cultural significance, and how the concept of cultural significance can play out more effectively in conservation policy and practice, through better-negotiated decision making.

In the case of PIDE's headquarters, for example, the State did not consult communities about the purchase of the building by a private buyer. Nor they were consulted about the rehabilitation or about the removal of the commemorative sign. Indeed, the latter provoked a series of protests by the Movement "Não Apaguem a Memória" (direct translation by the author: *Do not erase the memory*) that ultimately led the city hall to put the sign back on the wall (Boaventura, 2014). More than being a problem for the conservation of cultural heritage objects, which becomes worse in the preservation of cultural heritage involving social artistic practices, ethnographic objects, public art, participatory or performance art, this is a problem of *social justice*.

By being successively absent from the conservation decision-making process and from the documentation that is produced as an act of remembrance for present and future generations, communities surrounding the object are being forgotten by systems of power that tend to enhance some voices instead of others (Waterton and Smith, 2010). In the case of PIDE's headquarters, for example, the voices being forgotten are ultimately the same voices that allowed the revolution to happen. The destruction of the "memorial character" of this building is therefore a symptom of a process of erasure of the history of the building and of the memories of the revolution.

Acknowledging that cultural heritage is something that belongs to all – an more so in the case of places with such a presence in the collective memory, such as the PIDE headquarters, and the Aljube's prison - it is possible to consider it from a public realm, or *public sphere*, a realm in which democracy occurs (Mitchell, 1995: 117). In this context, it is important to consider Nancy Fraser's ideas about the "actually existing democracy" (Fraser, 1990: 56). According to this author, justice, which "requires social arrangements that permit all (adult) members of society to interact with one another as peers", or *parity of participation* (Fraser, 2003: 36), is absent from most areas of society. The main challenges to this utopic ideal are, according to the author, maldistribution, *misrecognition*, and injustices of representation (Fraser, 2003). Waterton and Smith (2010) explain that *misrecognition* is the main challenge associated with heritage studies. While Waterton and Smith's account is focused on what is considered cultural heritage or not, this notion of *misrecognition* can also be applied to the decision-making in conservation.

Misrecognition is a problem that "denies some individuals and groups the possibility of participating on a par with others in social interaction" (Fraser, 2001: 27). According to this perspective, it becomes clear that communities have been misrecognized in conservation's decision-making process. Either by failing, or not even attempting, to identify possible spokespersons within communities, or by making their accounts about the work invisible, or even by transforming communities in mere consultants – without really explain how that worked, how questions were asked, and who was asked to intervene in the process – conservation is withdrawing power from this stakeholder. Fraser's notion of justice suggests that, as users of cultural heritage, communities should also be responsible for its preservation – moreover, in the case of places of memory, they are also the reason why this heritage is protected. But the absence of communities in decision-making circles is not accidental. As explained by Waterton and Smith (2010: 13), "communities of expertise have been placed in a position that regulates and assesses the relative *worth* of other communities of interest, both in

terms of their aspirations and their identities". For this reason, and in this case, it is possible to consider this heterogeneous group as a set of people who share an interest on the object and on its conservation.

As stated elsewhere (Marçal and Macedo, 2017), this notion of community, perhaps somehow more inclusive, leaves conservation decision-making in a conundrum: *being inclusive means becoming unmanageable*. Indeed, although it would be possible for conservators to promote a participative action, by creating multiple open, physical and virtual, *fora* where individuals of different communities could directly engage into the conservation process of a given artwork, that would inevitably raise some problems by: (1) creating an issue with community representativity as probably, different communities would not be *equally* represented in the process; (2) making conservation processes more time consuming; (3) increasing the costs of conservation actions due to the employment of more (and more specialized) human resources in order to analyse the data; and (4) transforming conservation into an openly political action, as many voices (the ones that would argue for the objects destruction, for example) would probably not be considered. Albeit these problems, communities still need to be involved in order to promote a more just decision-making process, making the preservation of these *places of memory*, truly an action of *recovering memories* of the object itself. It is not a path solely towards the preservation of the immateriality of the object, but is also a way to make more informed decisions. In the case of Cultural Heritage with a very relevant social history, as in the case of PIDE's building or of Aljube's prison, this engagement needs to happen as a way to transmit their memory to future generations. It is of utmost importance for the preservation of this heritage as a place of memory; otherwise, fifty-years from now, there are no reasons left to preserve PIDE's building, as communities will then have forgotten about the meaning of that place, and perhaps, ultimately, about the meaning of the *Carnation Revolution*. After all, why conserving cultural heritage for *future generations* if *present generations* are not called to decide in the process?

## 4 CONCLUSIONS

This paper argues that conservation is a process of recovering memories, or, in a way, of making these memories visible, allowing them to be (re-) constructed by future generations. It also explored some dangers of current conservation practices, which tend to make those memories less visible, either materially – by erasing traces of the object's history, which is, fortunately, rare, or immaterially – by not allowing communities to truly intervene in the assessment of the object's social significance, or by not fully explaining in the related documentation how that assessment occurred. These practices not only endanger the object, but they are also a symptom of successive acts of injustice that are perpetuated by stakeholders with (symbolic and real) power. While it is obvious that not all the places of memory from the dictatorship or revolutionary period can become places of remembrance (such as the Aljube's Museum), it is possible to reach a middle ground, where small traces of that past existence of the object can be recorded, and transmitted. On the other hand, an active cooperation with communities is of utmost importance, however, it can easily become unmanageable. Conservation documentation can nonetheless explain how the consultation occurred, resorting, when necessary, to anthropologists in order to assess the social significance of the object. Conservators can also be equipped with training in the application qualitative methods (interview, focus groups, etc.) in order to make consultation and interaction with communities more successful.



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# SPACE AND MEMORY: WRITTEN SOURCES AND ORAL HISTORY WHEN PLANNING URBAN RENEWAL

**Margarida Reis e Silva**

PhD student at PIUDHist – inter-university doctoral program in History; Centre for Geographical Studies, University of Lisbon (CEG-UL), address: Edifício IGOT – Instituto de Geografia e Ordenamento do Território, Rua Edmée Marques, Cidade Universitária, 1600-276, Lisboa, Portugal. E-mail: mreisesilva@gmail.com.

## ABSTRACT

When studying the buildings that make up the tangible heritage of urban neighborhoods, Oral History can bring new perspective: providing references otherwise unknown or determining assigned value, thus rearranging the way we plan urban renewal. In Lisbon, the old industrial boroughs of Marvila and Beato became forgotten quarters, when factories and wine wholesalers halted activity in the 1980s. With *Expo 98*, the World's Fair held in Lisbon, there was a timid return, as these neighborhoods stood between downtown Lisbon and the fair's venue; none the less, interest died out, and the region's old convents and palaces, along with its nineteenth century's factories and working-class housing units, remained in near-abandonment, a path that finally seems changing now. An academic study used Oral History as one of the methods to plan a much needed rehabilitation of these territories. This essay describes the process and its conclusions so far.

Keywords: Urban renewal / Oral History / Industrial heritage / Sociabilities / Urban revitalization.

## 1 INTRODUCTION

“What is the city but the people?” *Coriolanus*, William Shakespeare

Most recently, the old industrial neighborhoods of Marvila and Beato, on Lisbon's eastern riverfront, are getting much public attention, as old warehouses are steadily being revived and becoming the city's newest creative hubs.

For the last three decades, however, this reality was rather different: since industry (mainly spinning mills, but also tobacco or cork transformation) and major wine wholesalers present in the region had been slowing down activity to a halt in the 1980s, these became forgotten quarters.

At the onset of *Expo 98*, the World's Fair held in Lisbon, not far from here, in the summer months of 1998, some minor urban revival took place, with refurbished pavements and some riverfront buildings getting a new coat of paint, or even commissioned urban art on the street fronts. Industrial archaeologists enlisted the main factories working here since the beginning of Portugal's late blooming industrial age, in mid nineteenth century, with details about production and machinery; working class housing units (that grew rapidly here at this time frame, as rural workers flocked to Lisbon to work better paying industry jobs) were also featured, with their repetitive modules and inward-facing buildings; the elderly convents (deactivated in Portugal from 1834 onwards, by the newly governing liberals) and old aristocratic families' summer residences were photographed, studied, and described in their history and

sometimes decline to a greater audience, in a number of publications called *Caminho do Oriente* (ARRUDA, 1998; COMISSARIADO 1998; MARTINS *et al.*, 1998; FOLGADO and CUSTÓDIO, 1999; MATOS and PAULO, 1999), “the oriental route”, the path running between downtown Lisbon, to the west, and the venue of the fair, to the east of Marvila and Beato.

The World’s Fair ended, and thus seemed to subside the interest in these old industrial neighborhoods. Some demolitions took place, mostly regarding the possibility of a third (Tagus) river crossing running nearby. The old noble homes and the places of religious seclusion (through time divided up to become popular housing, or sometimes turned into factory spaces themselves) were left virtually re-forgotten. Even when interiors had been rehabilitated for events, the outside didn’t stand to gain anything from this renewal, and urban decay was the prevailing tone. Old factories seemed to slowly fossilize, working class housing, now more sparsely inhabited, never got rehabilitated, even when owned by the municipality.

From 2010 to 2013, an academic study on the History of this territory was undergone. Among its objectives: describing the urban development of Marvila e Beato over the last two centuries, getting to know their most emblematic buildings and the uses they’d had, aiming to constitute a study-base for future urban renewal projects in the area.

## **2 METHODS**

On its path, the investigation proposed critically cross-referencing diverse materials: existing publications (those mentioned before, plus a number of local history books as well as texts on industrial archeology and working-class housing) would provide clues on the main industrial buildings, as well as other tangible heritage – namely existing convents and old palaces, a common site in the region until the nineteenth century, as it was famed for its fresh air and scenic beauty, in this then rural area, overlooking the Tagus. Continuous on-site observation would also have an important role, trying to map the territory and understand its flows, while also getting comprehensive photographic records to work upon. This knowledge would be aided by analyzing old cartography of the region. “State” sources also played a vital role in the investigation, as public records by municipal authorities were thoroughly studied, namely of the two institutions that worked directly in Marvila and Beato: the DRUPV (Divisão de Reabilitação Urbana dos Pátios e Vilas – an already extinct municipal agency, created to handle the rehabilitation of working-class housing) and SRU – Sociedade de Reabilitação Urbana Oriental (a municipal-funded company which, from 2006 to 2008, intended to rehabilitate Lisbon’s eastern neighborhoods, to no success). Lisbon’s municipal photographic archive (AML) was also a decisive source of information, as it depicted the region since the beginning of the twentieth century. Oral History would also have an important role in this illustration of Marvila and Beato’s busy old times. Interviews would be conducted with residents and those who worked in the area, mainly between the 1940s and the closing stages of Portugal’s industrial surge, in the 1980s. Testimonies would be taken, in order to better understand the uses of the space and the ways of living of its inhabitants and working population.

## **3 DEPICTING URBAN DEVELOPMENT IN BEATO AND MARVILA**

Up to the mid nineteenth century, the present day parishes of Marvila and Beato were rural city surroundings, on the eastern side of Lisbon. The geographical traits of the

region, with its green valleys overlooking the Tagus' river, made this a popular site for the aristocracy's summer residences and farms, as well as for the massive buildings of some religious communities, set in this peripheral location.

At the end of the eighteenth century, the Marquis of Pombal, powerful minister of king José I, implemented Portugal's first manufactures, with some of them being raised in this otherwise idyllic surroundings. Merchandise was easily shipped via the Tagus, and big transformations were in store for the region.

In 1838, in what became known as Portugal's first industrialization, the first major steam plant fixated in Beato, in the site of San Francisco's of Xabregas male convent, which had recently been extinct. Marvila and Beato (along with their western counterparts of Alcântara and Belém), would soon become the capital's main industrial sites (MATOS and PAULO, 1999: 5). The arrival of the train was another decisive factor in this urban transfiguration, with the first railway *departing* from Lisbon to the north of the country to cross Beato and Marvila from 1856.

With a de-capitalized aristocracy and the upcoming bourgeoisie gaining ground, lots of old palaces exchanged hands, to become new summer houses or to be transformed to industrial spaces. The industrial growth brought a new problem: providing housing for the working classes. Lisbon experienced an increase in population as had never been seen before, as many migrant workers came from rural areas to work at the mills. As in every time of rapid population growth, small units of housing started being improvised across the city, in solutions known as *pátios* (not more than cubicles, built in pre-existing buildings' yards, or simply subdividing the old aristocratic farm-houses, some of them in abandonment by now) and *vilas* (housing units built purposely for workers, sometimes by private promoters, others by the factories themselves). These lodging solutions were nonetheless the subject of much criticism, especially from the late nineteenth century, when matters of hygiene and sanitation gained awareness.

At the onset of the twentieth century, large electricity-run plants were also set in Marvila and Beato, along with wholesalers' warehouses, mainly national wine companies looking for distribution in the country's capital, but also overseas, through Lisbon's port nearby. The 1970s were of continuous economical growth for Portugal (LAINS and Silva, 2005), and these were growing communities, at a time when the rest of the country already endured a decrease in population, due to overseas immigration. Demographical and economical pressures definitely set the pace for the urban development of these riverside eastern boroughs, which, by mid 1950s new another sign of the times: clandestine housing.

However, in the 1980s, economic reconfiguration brought change to the country's means of production, ending the Portuguese industrial era. With tertiary sectors gaining ground, factories closed and warehouses became obsolete (the end of the African colonies seemed to have limited wine exports, as well). Residents and workers lost their livelihood, newer generations went elsewhere to find work. For the last 30 years, Marvila and Beato had lost their two-century old industrial identity, but gained nothing in return. Urban degradation was evident and ever-present.

In the last two years, this reality seems to be finally shifting. Artistic production and start-up companies have been slowly finding their way to these old industrial sites, with near-abandoned warehouses being reutilized and divided up for shared-space working solutions, by both municipal and private initiative.

At these times of change, we propose a closer look at the regions' recent history, namely to the life course of its tangible heritage, but also considering the oral

testimonies collected, with the new knowledge of the space they proved to supply, along with an unprecedented view upon urban renewal and its relevance: should its aim be to rehabilitate decrepit buildings, or to revitalize “lost” communities? The research showed a built environment made up of a series of rapid urban transformations. Old maps became precious assets, and information gathered in this manner was cross-referenced with bibliography and municipal sources’ data, as well as with Oral History accounts.



Figure 1: The landscape in 2010

### 3.1 BEATO AND MARVILA SEEN THROUGH HISTORICAL MAPS (1835-1958)

The first cartographical source consulted was the *Carta da Linha de Defesa de Lisboa* (CALADO, 1993), or Lisbon’s Defensive Line Chart, commissioned in 1835, to military engineers, by king Pedro IV.

It depicts a scarcely inhabited region, with main circulation paths drawn along the riverside, in what was then called Rua Direita de Xabregas, (now Rua do Açúcar). Construction-wise, this was also the main street: from west to east, we can locate the Madre de Deus (female) convent, the houses of the Marquis of Nisa, followed by the massive S. Francisco de Xabregas (male) convent, not far from the Marquis of Olhão’s palace. Religious houses continued on the waterside, along with other palaces, with special reference to the Beato António’s convent, which named the eastern part of the territory and stood roughly at its centre. The river was a near presence, with some of the buildings seemingly entering its waterbeds and having their own private anchorages. On the hinterland, the present day Rua Direita de Marvila marked a second main route, with more aristocratic farm-houses and some early manufactures (CUSTÓDIO, 1994: 5) already identified in its vicinity.

Between 1856 and 1858 a full set of Lisbon plans was drawn (VIEGAS and TOJAL, 2000) under the chief military engineer Filipe Folque, and Beato (by then Marvila was not yet a part of the city of Lisbon) already denotes some major transformation. The landscape is still mostly rural, but the deep cut made by the railway is evident, breaking the territory in two. Now with one more means of circulating goods departing from this region, the new *layer* of industrial occupation is seeable, with S. Francisco already identified as “Fábrica de Tabaco” – a prosperous (LAINS and SILVA, 2005: 268) tobacco plant that would remain at this site until 1965. Also in the Beato boroughs, the Fábrica de Fiação e Tecidos de Xabregas, a spinning mill with a workforce of up to 500 people (FOLGADO and CUSTÓDIO, 1999: 79), is already in view. Old palaces still punctuate the landscape, as well as the ever-present Tagus river.

By looking at Marvila and Beato in 1904-1911, when new plans of Lisbon were made (VIEGAS and TOJAL, 2005), we witness the birth of a very different city. Although still rural in the hinterland, the region had gained new scale, with embankments already invading the river, as Lisbon’s port kept growing (CONSIGLIERI and ABEL, 2004). The

Marquis of Olhão and the Duke of Lafões still held living quarters in the region, but the industry ruled these territories. The Nisa palace was now a vocational school for the industry (MATOS and PAULO, 1999: 21), the Fiação nearby had doubled in size and its workers' housing units – Pátio do “Bleck” and Vila Flamiano (Fig. 4) – are now discernible. The private popular housing called Vila Dias is also in this map, along with a myriad of other small units that now scatter the region. Other factories, like the Fábrika de Fiação e Tecidos Oriental (FOLGADO and CUSTÓDIO, 1999: 103) are now in place, and, according to bibliography, in what once were the houses of a nobleman, Dom Gastão, now labored the Cooperativa Operária Oriental, one of the regions' new workers cooperative (FREIRE and LOUSADA, 2013: 82). The Marquis of Abrantes' palace (Fig. 2), situated in the Rua Direita de Marvila, was now divided in small housing units for working families, and was the site of a popular philharmonic society. Major factories were then the Nacional cereal mill, in what used to be Beato António's convent, among match or cork plants (CUSTÓDIO, 1994: 471) and the aforementioned wine wholesalers, like *Abel Pereira da Fonseca* (Fig. 3) or *José Domingos Barreiros* (Fig. 7).

In the 1950s the *Instituto Geográfico e Cadastral* (national Geographical Institute) produced a revised city plan. In it, it is visible how river embankments gained even greater proportion. A new expansion plan was being carried out in Lisbon, which then drew a wide riverside road, the Avenida Infante Don Henrique, setting this once waterfront venue further apart from the Tagus. Port installations were also greatly expanded at this time frame (CONSIGLIERI and ABEL, 2004: 30).

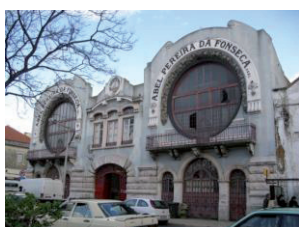


Fig 2: Abel Pereira da Fonseca, 2011



Fig. 3: Marquis of Abrantes' Palace, 2010

As for the factories, the Fiação de Xabregas had endured a large-scale fire in 1947, and its robust building stood in Beato half-destroyed, now occupied by smaller industries, as it remains today. The Nacional mill, or the main warehouse for the Portuguese army (Manutenção Militar) are a dominant presence in this map, as well as the extensive plants of the weaponry factory (Fábrika de Braço de Prata), or the chemical giant Sociedade dos Sabões, at the hinterland of Marvila since 1919 (FOLGADO and CUSTÓDIO, 1999: 128-135), as well as the rubber transformation unit of the Rua do Açúcar. All of them have stopped laboring since.

Working-class housing units remained in existence, and more were built, like *Vila Emília*, in 1933 (almost all of these units are now in very poor condition). Near the palace of the Marquis of Abrantes, now stood the Bairro Chinês, with its own stores and small industries, but generally made up of poorly constructed cottages – an immense clandestine borough. After enrolling the region's tangible heritage, we now move to the end-focus of this essay, and the contribution of Oral History.

### 3.2 MEMORY AND SPACE

In this part of the investigation, the aim was keeping accounts of the ways of living of

the region, redeemed from old photographs and written sources, but also from on-site observation and the testimonies of those who lived and worked here.

### 3.2.1 Living in Marvila e Beato: migration and poverty

In the mid twentieth century, despite the economical growth in the region's recent genesis, the life of its inhabitants was greatly marred by a shortage of means, especially for new arrivals.

Migrating from rural areas, the new inhabitants came to Lisbon to be near their relatives or fellow-countrymen whom had arrived ahead of them (DRUPV, 1993; testimonies). Houses were ill-constructed, and density of occupation was high (test. N; LEITE, 1991; DRUPV, 1993). Elderly residents remember famine, and widespread scarcity (test. N; test. I). Others, still can recall those times (of changing urban occupations) with some humor:

“Sometimes we were going up the [tile paneled] stairs of the *pátio* [of the Marquis of Abrantes] and would say: ‘mother, you can’t complain: you live in a palace!’ And she would reply: ‘it’s a palace at the stairs, but our house is just a shabby cottage’” (test. AN).

Salaries were low and barely guaranteed survival. In addition, some people couldn’t get jobs, as demand was high and offer fluctuating (test. N; test. I). As recalled by one of the interviewees:

“I would work, and my husband would stay home, as he had no job. [...] I was engaged to work at the potato quay, and made 15 escudos a day picking potatoes. When my day was done, I would cut the good bits of the throw-away potatoes, to take home [...]. I would rise early and go down to the river, with my pocket knife. If there was work, I’d work, if not, I’d at least bring back something for us to eat” (test. I).

### 3.2.2 Sociabilities and leisure

In everyday life, there were many places of social interaction. At the heart of most *pátios* and *vilas*, units of popular housing, there was frequently a courtyard, as these units were built facing inwards, occupying the inner spaces of city blocks. This courtyard extended the domestic space of otherwise tiny homes, and served as a common room. Doors were open, conversations blended, cups of flour were exchanged; the courtyard served as a “microcosm” (LEITE, 1991: 105-106), where we can still identify the markings of past and present shared uses. Although some interviewees described the “neighborhood as one” (test. AN), the former resident Mário Furtado challenges this notion on his book of memoirs, calling it “forced communitarianism”, due solely to its inhabitants’ poverty (FURTADO, 1997: 121).

In old photographs, children playing are a common sight. Often this was their playground, secluded from the outside world, where they could spend the days while their parents were at work or looking for it. The inner courtyard was also an extension of the kitchen, where some types of cooking were done at this outside space, as well as some of the washing. Washtubs are a common site at these grounds, and a usual place of interaction for women.

Apart from everyday activities, celebrations also took place in these closed quarters, like the ones in honor of Saint António, in June, Lisbon’s annual popular festivities. Palm leaves, paper balloons and bonfires are among the most cherished memories of those events (LEITE, 1991: 119; test. A).



**Figure 4: Inner courtyard of Vila Flamiano, Beato, 2010**

Outside the courtyard, taverns were a favorite spot for local man. At lunch time, the workers flocked to these places (ARAÚJO, 1939: 55). Local author Mário Furtado recalls their importance in leisurely times, stating that “taverns are to Xabregas [Beato] what coffee shops are to Chiado” (FURTADO, 1997: 125), these eastern boroughs being the headquarters of the wine companies that provided Lisbon with spirits.

Sometimes born at the table (CONSIGLIERI, 2004: 39), local collectives were also an important place of leisure, with their ballrooms and popular marches. Some had their own bands or theatre groups, some created schools to care for the younger generations (test. N; CONSIGLIERI, 2004: 34). Sports, and specially football, were high on the memory list, in a region where the local club, *Oriental*, born among industry workers, is still fighting for survival among the big clubs.

Going to the movies was also fondly remembered, as Beato and Marvila had their own theatres (test. N; test. A; FERREIRA, 1995: 78). Saturday balls were warmly recalled, as the height of leisure and also the site of special memories: “on my wedding day, our honeymoon was dancing at the ball” (test. NA).

As guessed by the cartography, the river was an everyday presence. Down at the port for work, or as the landing site of hydroplanes, seen from the window, the Tagus was always nearby. Children would bathe in its “transparent waters” (test. N), women with enjoy refreshing walks after leaving the factory, families would flock there to escape the heat of the summer nights (testimonies; PINHÃO, n.d.: 10; FURTADO, 1997: 145).

### 3.2.3 Aides to a difficult life

Public washing-rooms were a common site at these boroughs, as most houses didn't have running water, well into the twentieth century (FURTADO, 1997: 112). The municipality provided this population with at least three of these units, with only one of them being active nowadays.

Public fountains were also determinant at providing better quality of life. In Marvila and Beato, getting water from them was a much needed yet rather demanding daily chore, sometimes softened by the laughter of the young girls venturing outside their mothers scrutiny (FURTADO, 1997: 112; test. AN). Once (unfortunately) the center of everyday life, most of these fountains are now abandoned (with the known exception of one), and stand in very poor condition in these old neighborhoods.

Soup kitchens were also a part of this quarters' history. Old residents remember being in line to pick up their soup and bread, and of having hen at Christmas, thanks to these (private or state) social endeavors (test. N; CONSIGLIERI, 2004: 35). Another of these institutions was the *Lactarium*, situated at the Alameda do Beato; a place where local women could benefit from natal care and pick up milk for their children, at a symbolic fee (CONSIGLIERI, 2004: 20; test. I). The small building of the *Lactarium* now stands



forgotten at its former place.

In 1928, an electric cart lane started cruising these industrial neighborhoods. Until the 1980s, this was a main means of transportation, with its own “workingman ticket-fee”.

These are some of the memories collected by this research, trying to map out the daily living of the workers and residents of Marvila and Beato. Using the interviews, we intended to bring an intangible side to the tangible heritage previously known through maps and printed essays. This investigation aimed to set a study-base for the urban renewal of Marvila and Beato. At its start, the main element of study were the buildings, and the physical rehabilitation of these forgotten quarters and its buildings. The interviews, however, brought new dimensions: some details grew bigger and some new references came about, from the memories of old times.

More importantly, however, was that, when asked directly about the most important factories, convents or *vilas*, and which of these historical buildings would they choose to rehabilitate, the subjects disregarded the built environment, and brought an important clue to re-equate the path of urban renewal: the subjects valued not the static old buildings, but the everyday *movement* that was lost, and that, more than anything else, they would like to see come back.



Fig. 5: The old Marvila Cinema, 2013



Fig. 6: Abandoned fountain

## 4 CONCLUSIONS

After this journey, through the tangibility and intangibility of Lisbon’s old industrial boroughs, we collected much data. From maps and other printed sources, we could get to know the main buildings or the ways of the urban development of these once fluorescing industrial sites, in the last two centuries. Determinant information when planning urban renewal, a process which can never underestimate the relevance of Urban History studies like this one.

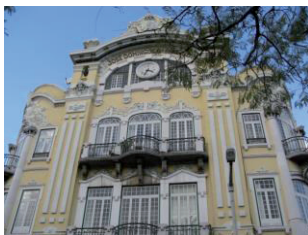


Figure 7: José Domingos Barreiro, 2014

However, the use of Oral History proved to be even more useful, as testimonies brought knowledge (space references) scarcely mentioned in books, and also the measure of attributed value. Most of all, interviews were eye openers, as in the beginning of this project the aim was directed at the tangible, but intangibility gained

ground, directing a shift in focus. From the memorialistic process, we take the important notion that urban landscapes can be valued and regenerate not only by knowing their architectural heritage, but first of all, by understanding their social interactions and ways of living, the “social fabric” which holds the built environment, and that should rightly be regarded as the first variable, when urban renewal is being programmed. More than just rehabilitation, which would not bring change by itself, revivification seems to be the new path.

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# CLASSIFICATION OF THE PROCESSES OF PRODUCTION AND TRANSFORMATION OF URBAN HERITAGE

**José Miguel Silva**

Faculty of Architecture of the University of Lisbon (FAUL), Rua Sá Nogueira, Polo Universitário, Alto da Ajuda, 1349-063 Lisboa, Portugal, e-mail: zem.silva@gmail.com

## **ABSTRACT**

The possibility of regulating the evolution of the city and the diversity of possible ways justifies the need for classifying the evolutionary process of the urban heritage.

Based on the reading of the Portuguese city, the intention of the study is to identify different processes of production and transformation of the urban heritage over time, often the product of the imagination of a creative process. Complementarily, are identified the methods and practices used in Japan, with the aim of analyzing a different intervention and cultural context in Portugal.

The methodology is based on two fundamental aspects: the processes structured according to a typological table creating a matrix of intervention actions on the urban heritage; and their conjugation and sedimentation, as representative concepts of multiple approaches on the urban space. The theme of urban heritage is seen from its morphological study, considering that it is not a reached end but the result of a creative and evolutionary process over time.

Keywords: Morphology, Urban Form, Morphogenesis, Processes, Heritage

## **1 NOTIONS AND INFLUENCES**

The city is an unfinished object in constant evolution, resulting from multiple cultural, architectural and urban processes that contradict the idea of crystallization of the urban heritage as a process of action. From a cross reading of the sedimentary layers that compose the evolutionary process of the city it is possible to deduce a set of singular processes of production and transformation of the urban heritage.

The proposed study integrates a PhD in Urbanism with the theme “The Invention of the Urban Heritage: The production processes of the urban heritage in Portugal” at the Faculty of Architecture of the University of Lisbon. The theme addresses the issue of the morphological evolution of the urban fabric in particular its relationship with the monumental buildings. The main goal of the theses, in this specific context, is to understand how the urban heritage was systematically transformed, created and invented to build a critique table of processes implemented that, from a theoretical point of view, can be transpose to the Portuguese heritage intervention of today.

Methodologically, the study establishes a contextual and reconstructive analysis of the successive stages that make up the morphological dynamics of the heritage sites. The approach to the case studies focuses on the critical reading of multiple operations of production and transformation of the urban fabric over time, understood as examples of the creative invention of the heritage sites, organized according to their design and

practical application. Complementarily, the concepts and processes applied in the Japanese patrimonial intervention are approached as a counterpoint to the logic defended in the West, particularly in Portugal.

As a hypothesis it is stated that the urban heritage is a product resulting from a creative process of invention. That is, it is a man-made physical and cultural identity that results from a constructive process, settled and never stagnant. In this way, adds to the theme of conservation of the urban fabric the idea of an continues intervention in the production of the heritage sites, demonstrating that it is possible to add new steps, forms and identity values, to the evolutionary process of urban space. Thereby restoring its usefulness without loss of the historical specificity.

So, recognizing the importance of sediment in the construction of the present city, will it be possible to consider the different processes of creation of traditional spaces in time as useful tools to the (re)creation of the urban heritage today?

The processes are intended to be timeless and enriching actions of the urban form. Its applicability is not captive of a specific time but to its adaptability to a variety of intervening realities in the evolutionary urban process. They are creative phenomenas that mix in the same space the physical action and its social component. And based on their perception it is possible to identify an action pattern that tends, or ambitions to be, to an ordering synthesis of its complexity (DIAS COELHO, 2002).

The typological approach of urban phenomena is one of the methodological bases of the study of the city. In this sense, can be seen, among others, the works of Camillo Sitte in "Construction of the city according to its artistic principles" (1889); Robert Auzelle's classification studies in the "Encyclopedie de l'Urbanism" (1947) and Pierre Lavedan in "Géographie des Villes" (1959); And the morphological studies of the Italian cities by Saverio Muratori, or the typification of the Portuguese urban layout by Carlos Dias Coelho in "The complexity of the urban layout" (2002) and by Sérgio Fernandes in "Genesis and Shape of Portuguese Urban Layout" (2014).

In turn, José Miguel Silva developed an analysis of the urban space based on the singular relation of the inherited city with the contemporary desire to affirm a new spatial and cultural identity. From this point of view, four processes were synthesized: demolition, construction, displacement and consolidation (SILVA, 2010). However, this type of process concerns just a momentary event in the twentieth century and not a definition formed over time, as intended to be demonstrated here.

In the classification process of buildings it can be highlighted, the work of Ernst Neufert in "Art of Projecting in Architecture" (1936), proposing the classification of typologies according to their uses; By Nikolaus Pevsner in "The History of Architectural Typologies" (1976), with the analysis of singular buildings between the twelfth and eighteenth centuries; And Michael Jean Bertrand in "The Architecture of Urban Housing" (1980), organizing by type the bourgeois urban housing built in the Mediterranean, England and France from the nineteenth century until the end of the twentieth century.

These processes are closely linked to the capacity of buildings and places to model themselves to a new social use. For example, Sherban Cantacuzino reviews them not only in their physical form but also in their social relation, in which she considers the reuse of buildings as a way to preserve historical sites (CANTACUZINO, 1975).

Likewise, Françoise Bollack and Kenneth Frampton make a typified reading of current interventions on singular buildings, organized according to "Juxtaposition", "Insertion",

“Weaving”, “Wrapping” and “Parasites”. For these authors, the reuse of ancient structures involves the acceptance of a variety of contrasting forms, which interfere with the preexisting elements (BOLLACK and FRANNETH, 2013).

The urban heritage is generated and regenerated, restored and copied, added and subtracted from old and new traditional values constantly over time. The construction or the upgrading of the urban heritage through time involves a substantial change of its History. Therefore, preserving tradition is only possible if it is fully consolidated by a "symbolic act" (VAN UFFELEN, 2011).

Starting from the idea that sedimentation is the result of the conjugation of multiple actions over time and not a process of production in itself, the propose idea is to identify and typify the act of transforming. That is, to analyze in particular what provides the action and, in general, its result.

## 2 PROCESSES OF PRODUCTION AND TRANSFORMATION

The intervention processes are a set of actions that, individually or in association, have the ability to create and modify the urban space, as we know it today. These different typs of interventions in the urban heritage can be grouped according to 4 procedural categories: Addition, Superposition, Reproduction and Crystallization

**Table 1: processes of urban heritage production and transformation**

<b>Addition</b>	simple	composed	
<b>Superposition</b>	simple	composed	
<b>Reproduction</b>	transcription	restitution	displacement
<b>Crystallization</b>	consolidation	inaccion	

For each of these categories a set of case studies will be presented as examples in the Portuguese intervention heritage context and, in addition, cases in Japan will be used to represent a different procedural and cultural nature in the reciprocal relation between the historical monument and its urban context.

Despite its conceptual uniqueness, each case cannot be understood as an individual identity. They result from their articulation. Addition, superposition and reproduction are complementary factors in the production of heritage sites. Crystallization, given its particularity, merges in the historical sites as a momentary action without apparent transformation, sometimes giving rise to its state of ruin.

### 2.1 ADDITION

Addition is the act of adding a new physical characteristic to the urban object, either by a simple union or by the composition of different contiguous spaces. The action can be considered juxtaposition by extension of continuous or dissonant forms between preexisting and new elements.

By juxtaposition it is understood that there is an element that is coincident to both, touching them on a common point. This relation can be made by the union of its formal limits or by the sharing of an urban element, street, building or monument, which are simultaneously aggregator and separator between them. The continuous or

discontinuous relation refers to analogous processes in the characterization of the public space, different spaces but of similar contents.

The ephemeral perspective of an additive solution often has a symbolic use to represent a past state. Its application can be reversible and is obtained through textural, material and chromatic differentiation. The permanent perspective concerns concrete action by building lasting elements, which can promote both the differentiation of the parties and the extension of common characteristics between them.

The addition process can be obtained by a simple or compound action. Simple addition is the act of juxtaposition only two elements, a new to another preexisting. Among other cases, it can be highlighted the evolution of Largo da Batalha and the Largo de Santo Ildefonso, forming the current Praça da Batalha, in Oporto; And the adaptation of the former Santa Marinha da Costa Monastery in Guimarães to a hotel through the addition of a new building according to the project developed by the architect Fernando Távora between 1975 and 1985.

In turn, composite addition is a process of producing heterogeneous places resulting from the sequential and juxtaposed chaining of spaces. That is, the meaning and physical character of the place results from the diversity of multiple characteristics built over time, or in a moment, without superposing each other, living together in the same place of action.

The process is obtained by the conjugation of different forms or public spaces, each of them captive to its singularity although interconnected by an apparent historical, visual and vegetal relation. As examples of composite addition in the built heritage context can be highlighted the interventions in the Castle of Pombal, developed by the office COMOCO Arquitectos between 2000 and 2014; And, in the context of the recreation of historical sites, the construction of Praça Gonçalo Velho and Avenida Marginal in Ponta Delgada, based on the Urban Plan of Ponta Delgada in 1940, developed by the architect João Aguiar (Fig.1); or the evolution of the Monumental Area of Belém in Lisbon.



**Figure 1: Addition of a new public space, Ponta Delgada, 1940**

## 2.2 SUPERPOSITION

Superposition is the action to built a new spatial order on a preexisting space, merging both into a new urban fabric. Transformation processes are a sequential affirmation of overlaps, cultural manifestations that state their time over the next (HARVEY, 1985). This action can be simple, when the superposition of a new urban fabric on a preexisting one results from a singular gesture; or composite, when the urban heritage

is transformed by a set of operations carried out with a sense of unity.

By simple superposition are understood actions of production or transformation of urban heritage resulted from a momentary gesture. The building or urban space has been changed from a single operation based on an urban plan or project.

The urban heritage is created from a singular operation; a change of order is made on the pre-existence without any new operations. Sometimes, in the process of simple superposition, the public and private character of the place is transformed. That is, the process is carried out by appropriation of private structures for the construction of public space; And, vice versa, for the appropriation of the public spaces by the private ones. See, for example, the cases of the Urban Plan for Baixa Pombalina in 1758, developed by Carlos Mardel in Lisbon; or The Urban Plan for the construction of the University of Coimbra, developed by the architects Cottinelli Telmo and Cristiano da Silva between 1941 and 1966 (Fig.2).



**Figure 2: Superposition of a new urban layout, Coimbra, 1941**

The composed superposition is the sum of different moments of the metamorphosis of historical sites. The process is composed when the urban heritage results from the conjugation of multiple creative actions that can occur in a long time or in a singular moment. That is, for the momentary action to be composed must contain different actors, events and elements interconnected with each other. For the action to be composed in a long time, the urban heritage must contain in the same space multiple forms, actions and meanings created by a continuous sedimentary process.

As an example, the relationship between Praça da Batalha, Avenida dos Aliados and the Terreiro de D. Afonso Henriques, integrated in the historic center of Oporto; The intervention of Porfírio Pardal Monteiro in Vila Viçosa Urban Plan in 1938 that gave rise to the construction of the Bento Jesus Caraça and Duques de Bragança avenues; Or the successive alterations of the public space at Praça 25 de Abril, in Alcobaca, throughout the 20th century.

However, the intervention may involve not only the production of new forms and spaces but also the change of meaning and content, mythical stories that seek to link the identity and cultural values to the affirmation of a regime or a political will in history. The implied idea is always the characterization of a current element over an earlier element, regardless of the time it is or has been made.



### 2.3 REPRODUCTION

Reproduction is the action of repeating an existing or non-existent urban object that sometimes even replaces the initial form (JONES, 1990). Society has the capacity to regenerate itself or simply to shape the testimonies of history as a memory valuing process for its social well-being (ROBERTSON, 1992).

This process is a social and cultural process of reinterpretation of a past memory, aiming the restoration of a symbolic and sentimental value (SOLÀ-MORALES, 1993). "Historical or fanciful reconstitutions, arbitrary destructions, unassigned restorations have become current modes of valorization" (CHOAY, 2006, p.187).

Reproduction can be used as a transcription of an existing characteristic, as restitution of a nonexistent element, or by displacement of the monument between different urban contexts.

Transcription is a way of reproducing the same characteristics from one space to another in which they both coexist at the same time. By copying it can be underlined the representativeness of a given or preexisting element into another distinct reality. On the other hand, these mimetic reinterpretations can lead society to create types of intervention that copy identical solutions, become similar and homogenous.

See, for example, the similarity relationship between Largo da Oliveira and Praça de São Tiago in Guimarães. The first was intervened in 1972 according to the architect José Marques public space design project; and the second, in 1989, according to the project "Praça de São Tiago Arrangement", with architect Fernando Távora authorship. Or, the influence of Piazza del Capidoglio, designed by Michelangelo in 1534-38, which has influenced the design of the Japanese architect Arata Isozaki at the Tsukuba Civic Center, Narita, in 1983.

The restitution is the process of reproducing an element disappeared in time. The method can be evocative when the intervention formally reconstructs the past element - reproduces an imagined or documented image that is intended to be similar to the previous one; and invocative when it uses the past as a concept or idea to built a new object or space – it is a testimonial concept to assist in the creation, form or content, necessarily different from the previous one.

Evocative restitution is a process of reproduction that is intended to be rigorous and attests to the authenticity of the reproduced form. The reconstructions are based on historical and technical investigations that seek to recreate missing pieces, based on sciences such as archeology, morphology and written or photographic history. Reproduction is a "justified historical replica". The restitution, replica or copy, is a historical testimony justified by its artistic importance and its capacity to perpetuate an event (HERNÁNDEZ MARTÍNEZ, 2007).

As an example can be highlighted the process of reconstruction of the Portuguese Discoveries Monument in Lisbon. The monument was built in 1940 for the Portuguese World Exhibition, according to the architect Cottinelli Telmo's project and demolished in 1943, after the event. In 1960, integrated in the celebrations of the V Centenary of the Infante D. Henrique Death, was reconstructed based on the initial project, although extended and finished by the architect António Pardal Monteiro.

In the Japanese context, the reconstructions of the Kinkaku-ji (Golden Pavilion) in Kyoto in 1955 as a copy of the original fourteenth-century pavilion and the Tokyo Station in 2012 (Fig.3) can be highlighted. As a curiosity, Takahiro Kito, arguing about Kinkaku-ji, says that it is impossible to make an exact copy of a wooden building

because the materials and carpenters are different from those present in its initial construction (KITO, 2014).



**Figure 3: Evocative Restitution of the Tokyo Station between 1914 and 2014**

The invocative restitution uses a physical memory of a past time but does not return it as an exact copy. The process reproduces an idea of what it was originally but through the present design and materiality. These abstract reconstructions of the urban heritage manifest their sentimental importance, understood as a "historical document of the past", but which only serves as a reference to a concept and not to its real reintegration. As examples it can be pointed out the initiatives in the Promontory of Sagres by the architects Ruy Ângelo Couto, Nuno Beirão and Luís Benavente in 1955 and João Carreira in 1988, introducing a new architecture conceptually developed from a primitive idea of the place (Fig.4); or the intervention of the architects Gonçalo Byrne and João Pedro Falcão de Campos in the Rossio of Alcobaça in 2001, seeking, through a present design, to invoke an idea of medieval space.

The displacement is a process to move an historical element, though its decomposition or whole. The decomposed displacement always involves the dismantling of the object and its subsequent assembly in another place. In the process of rebuilding the object some new materials and techniques are applied, as well as a change in the context that integrates it. Therefore, it is considered that the result of the process is a reproduction of the original object, a copy. Take, for example, the Meiji Mura Museum, in Inuyama, where buildings from the early twentieth century were rebuilt; And the Sankei-en Garden in Yokohama, which was built entirely with buildings classified as

historical assets and moved mostly from Kyoto. In the Portuguese context the examples are the cases of the Nossa Senhora de Agosto Chapel at Oporto, or the “Portas da Cidade” monument in Ponta Delgada, Azores, both disassembled for their displacement.



**Figure 4: Invocative restitution of the Promontory of Sagres between 1950 and 2009**

On the other hand, composite displacement is an action that moves the entire object from one place to another without demolition or disassembly. This is an unusual process in Portuguese patrimonial intervention but very common in other cultures such as the Japanese, especially in solutions of recycling and requalification of its cultural and urban heritage. In the case of the Yuten-ji Temple in Tokyo, the method of displacing the building is very rudimentary, with the construction of a railroad made of wooden and steel underneath the structure to be moved (OKABE, 2013).

## 2.4 CRYSTALLIZATION

The crystallization process intends to consolidate the urban heritage without significant changes by consolidating it or even by its inaction. The idea of the process is to make eternal a physical shape, past or present, guaranteeing an unspoiled perpetuation for the next generations.

Consolidation is a process of crystallization of urban heritage, form and content, imposing its preservation and stabilization as it stands. It is therefore a concept that precludes the practices of addition, superposition and reproduction. This process is a method that involves the formal conservation of urban heritage, including its usefulness as a memory of a lived past, whether it is built or in ruins. Consolidation is, therefore, a process that imposes its delimitation, stabilization and minimal action.

The theories of John Ruskin, William Morris and, from a distance, Cesare Brandi, have contributed decisively to the definition of the concept of "strict conservation" of heritage. For these authors the different layers of composition and sedimentation of the heritage are an integral part of the meaning of the monuments, thus making it impossible to transform them. The urban heritage has suffered some changings over time that marks precise moments of its history and, as such, they are testimonies of socio-cultural transformations of the own human nature. Their destruction could mean the irreparable loss of important documentation of our history.

Lastly, inaction is the absence of transformation! Inaction often refers to the abandonment of the heritage leading to its downfall. Because these subjectes do not fit in the study of the thesis theme - the concern is what transforms, creates and invents - this concept is only considered as a category. See, for example, the ruins of Marialva, the Montemor-o-Velho Castel or even the "Imperfect Chapels" of the Santa Maria da Vitória Monastery at Batalha portrayed by the works of James Murphy and Mouzinho de Albuquerque. This last case becomes perfect because he is simultaneously a conservation ruin process as an attempt to reconstitute a hypothetical ideal of the monument.

### **3 ATEMPORALITY AND THE DIVERSITY OF PROCESSES**

Therefore, it is understood that the processes of intervention in the urban fabric are diversified, bearers of there own specificities. All, grouped or used in a unique way, have the capacity to produce, create and invent cultural heritage sites, landscape or in a small-scale context.

The urban heritage is a product created from the combination of processes, different artistic and cultural intensities. Each meaning defines an intervention hypothesis, a creative process of production representative of an intention. But when related, they provide the society with the necessary methodologies to develop a specific intervention that can value and perpetuate the inherited heritage.

The processes can be dated according to a time, cultural and political attitude or singularity of the project. However, these intervention methodologies can be used whenever the conceptual sense requires it, both in its temporal and geographic sense. These can be applied at different cultural moments or in different places, regions or countries over time. They are intended to be, in some way, universal. It should be noted that, despite this globalizing sense of the concept, the different realities and the uniqueness of cultural and material interventions must be understood.

In this sense, the different processes applied to the urban heritage result from actions that are constantly succeeding and replacing themselves, which are neither stagnant or exclusive of any past cultural period. On the contrary, there is a multitude of methodological and interventional hypotheses that transform space and give it a heterogeneous character. Different buildings or unique spaces, regardless of their historical value, can coexist with contemporary uses. It is then understood that it is possible to add new phases to the process of metamorphosis of places, restore utility, and at the same time to add new historical values, in a sense that respects its natural evolution.

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# TRANSFORMATIONS AND PERMANENCES IN URBAN RIVER LANDSCAPES

Yara Galdino<sup>1</sup>, Lúcia Costa<sup>2</sup>

<sup>1</sup> Universidade Federal de Mato Grosso, Departamento de Arquitetura e Urbanismo, Av. Fernando Correa da Costa, S/N, Cuiabá, MT, Brazil, Email: yayanog@hotmail.com

<sup>2</sup> Universidade Federal do Rio de Janeiro, Av. Reitor Pedro Calmon, 550. Prédio da FAU/Reitoria - 5º andar - sala 521,| Cidade Universitária - Rio de Janeiro, RJ, Brazil - 21941-901, Email: lucialice@gmail.com

## ABSTRACT

This article investigates an urban river landscape through the analysis of its morphology, uses and meanings. An approach that seeks to understand the waterfronts reframing process, undergone in contemporary times, as a result of a continuous process of social and spatial changes to which these landscapes have been submitted. This work focuses on a port landscape – investigating its history, experiences and representations. The article analysis past and current representations of the port of Cuiabá, Brazil, seeking to evaluate the connections between urban form and social content. We focus on knowing the influence of the form in the structuring and consolidation of uses and meanings, and the influence of uses and meanings in the permanence of the form. In the analysis of this landscape, it has been observed that some morphological elements remained present, despite the urban evolution and spatial transformations. Those elements persisted in the landscape, structuring the contemporary city. The analytical paths for this research have highlighted the significance of studies on urban morphology in the evaluation of river landscapes and allowed to verify the validity of the initial hypothesis that formal changes signed up new uses and meanings in the study area.

Keywords: Urban morphology / Urban river landscapes / Urban interventions

## 1 INTRODUCTION

In Brazil, the urban river landscapes, especially port landscapes, had to cope with a considerable change in their function and consequently their significance during the second half of the 20th century, when Brazilian cities experienced significant growth and modernization. Materially and symbolically expressive, those landscapes were emptied and a new use and meaning slowly reoccupied those spaces. During this process of apparent loss of meaning, emerged a process of protection and renovation of surfaces, seeking a historical legitimization of these landscapes.

To the cultural meanings of the urban river landscape produced by everyday use were added meanings produced by the urban design and by the patrimonial culture that altogether in an overlapping of values, has been proved, sometimes, to be conflicting or even damaging to the current spatial and cultural practices.

The Brazilian urbanization is a recent phenomenon. Many cities of the national territory are considerably new. On the other hand, many of the oldest cities, dated from the beginning of the colonization process, have lost a considerable part of their historical evidences. According to Abreu (1998: 08), the cities that maintain a representative

historical site often occurs due an economic stagnation more than a preservationist intention.

Regardless of the historical material that certain urban areas have preserved along their urban evolution, nowadays, the cities have been gathering whatever is left from the past, indicating changes in the way society relates to its urban memory (ABREU, 1998: 08).

Brazilian patrimony is now recognized as a strategic point of cultural policies. But this process is often mediated by a worldview that lightens some elements of the landscape and leaves other ones forgotten. Patrimonial policies seek to preserve, to give value and to revive certain cultural resource, but many times they create disturbing processes that cover and freeze these landscapes and sites (CHOAY, 2006; PEREIRO-PÉREZ, 2003).

In many cases, in the transformation of a cultural asset into a patrimonial asset it can be noticed a significant change on its use and meanings. The revitalization of historical landscapes often produces a generic space that doesn't really reflects the social practices that legitimized itself. Some touristic heritage interventions, rather than preserve, mainly aims to create social adhesion through an aesthetic and an image that has symbolic effectiveness to a generic audience (PEREIRO PÉREZ, 2003: 247).

Several studies have demonstrated the effects of urban interventions in historical regions of Brazilian cities. Such studies have shown that many urban renewals done in Brazil seem to be mere application of existing paradigms, extrapolations extracted from other projects, other territorial and cultural realities (RUBINO, 2006: 68), not considering the history of localities, their urban morphology, its cultural reality, its values and its latent conflicts. Beside the effects of gentrification, these interventions would end up generating a destabilization of their uses and meanings, creating new territorial, economic, cultural and identity logics.

## 2 METHODS

In this article, we seek to investigate the morphological changes and permanencies of the urban river landscape in Cuiabá, Brazil. According to Gimmler Netto et al. (2014), the transformation process of urban landscapes presents a plan in the modification of its formal structure that starts from changes in the use of them, which consequently would initiate changes in the form and in the urban fabric. In this process, the elements with greater formal stability would be the urban plan and the road system (Rossi, 1995), composing permanencies clearly observable in the landscape.

As the landscape is not independent of the social groups that produce it, the morphological interpretation of the study landscape was performed by rescuing the history of the social practices and representations, as well its materialization in the built space. Abreu (1998) emphasizes that the traces of the past are not neutral, therefore we try to consider the urban facts, by learning when they were produced; who produced them; for what purpose; and which context, trying to understand the reason for its continuity. We are interested in knowing the influence of form in the structuring and solidification of meanings, and the influence of meanings in the permanence of form.

To achieve these goals, resources that gather various forms of landscape representation were used, such as iconography, cartography, projects and urban

plans. Being investigated the ability of urban planning and design to align themselves with the formal, social, and cultural reality of the landscape.

### 3 RESULTS AND DISCUSSION

#### 3.1. INTERVENTIONS IN URBAN RIVER LANDSCAPES

In Brazil, urban river landscapes went through significant changes during the 20th century. For the cities that weren't located on the coast, the river used to mean the main connection with other urban centers. Although, in a short period of time the river has become a forgotten element of the landscape. With the development of road transportation, the dislocation of goods and people, used to be done by waterway, was gradually replaced by land transportation, which made the urban river landscapes to lose much of their social and economic significance.

In the 20th century, the increase of economic value of urban spaces contributed significantly to the devaluation of historic sectors in the cities. As they did not have a clearly measurable value, riverine landscapes, waterfronts, ports and historical public spaces became devalued and new forms of use and reuse were associated to these spaces. The urban renewal policies emerged in this context, these policies, besides proclaiming a historical and cultural legitimacy, somehow expected to recover some economic valorization to these spaces, due to the changes of the urban lifestyle.

Therefore, after a period of obsolescence, waterfronts would become a highly valued commodity, since they would be the "difference" that cities would have to offer in the crowded city market (VAINER, 2000). Meanwhile, the value of landscape as scenery and as an image would increase highly.

According to Del Rio (2001), the growth of cultural and thematic tourism, as well the trend to constructions of qualified fragments in the cities highlighted the port areas and the waterfronts because of their aesthetics particularities as well as for its distinctive symbolic capital. The author goes on saying that recreation, cultural, shopping and business tourism would have proved to be an important economic and social enabler of renovation projects in historical sectors, especially those linked to water bodies, where the historical symbiosis between city and water could be widely explored. This model of urban intervention was adopted in the 60s and 70s in cities such as Boston, Baltimore and San Francisco in the USA; and in the 80s and 90s in cities of Europe and South America, such as London, Barcelona, Bilbao, and Buenos Aires. The success of these interventions made these models to be considered as references to urban interventions that happened in Brazil in the following decades.

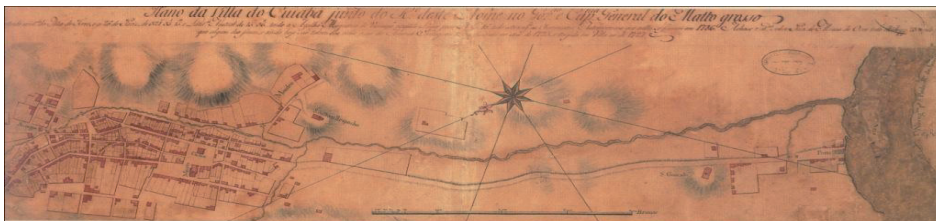
#### 3.2. CUIABÁ'S PORT AND URBAN RIVER LANDSCAPE

At the beginning of the 18th century, during the colonial period, settlement in central areas of South America was not the main goal of Portuguese crown. However, when gold was found in the territory where today Cuiabá is located, a small settlement began to be formed. The gold mobilized the courage to inhabit this place, but it was its rivers that allowed this occupation to happen, and that made possible the formation of a village, a town and a city.

In the 18th century, Cuiabá was a small urban area connected to another smaller one called 'Porto Geral', which was located on the banks of the Cuiabá River. During the



18th and 19th centuries, the urban landscape was slowly becoming consolidated, from a territorial occupation ruled by a linear growth, led by river paths and land paths connecting these two poles of urban growth: 'Vila Real' and 'Porto' (Figure 01).



**Figure 01: Vila Real do Senhor Bom Jesus do Cuyabá in 1786, map showing the urban concentrations of the Royal Village (on the left) and the Port (on the right). Source: Reis (2000). Original Belonging to Casa Ínsua, Portugal**

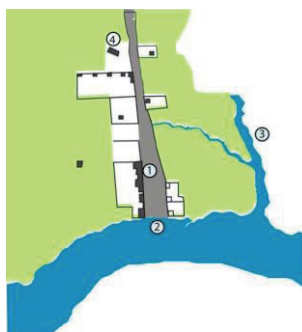
In studies about European port cities, Da Costa (2009) observed the existence of a sequence of processes acting in the conformation of the urban fabric of those cities. In the port landscape of Cuiabá, we observed the following phases, proposed by Da Costa (2009): **Phase 1. Building-to-building:** phase due to a casuistic process of occupation of the waterfront by buildings or facilities to support the port activities. A phase governed by a succession of individual decisions and not necessarily coordinated with each other. **Phase 2. Structuring of quays, streets and warehouses:** phase due to a process that defines the creation of a quay space, associated with an urban axis by the river, on which are installed commercial and residential buildings.

Comparing to what was observed by Da Costa (2009), we believe that a similar process occurred in many aspects of the Cuiabá's port urban morphology. But, in the port of Cuiabá wasn't formed an axis of longitudinal circulation parallel to the river. The main axis of circulation was established perpendicularly to the river, due to its original urban fabric having been structured in relation to the 'Vila Real' (Figure 02).

The landscape of the 'Porto' was gradually consolidated, maintaining a visual relation and access to the river. In the 18th and 19th centuries, 'Porto' was the gateway to the city and slowly gained a structure that would qualify itself as an urban space. In the 19th century, to the original tissue was added another path to the village, formed by the route of the cable car, and new buildings and urban spaces between the river and the city were established. During this period, the first parallel streets by the river emerged, forming a small urban area (Figure 03).

In 1899, a market called 'Mercado do 2º Distrito' was built in the port landscape of Cuiabá. This market's role was receiving, inspecting and marketing the goods that arrived through the Cuiabá River (Figure 04). The Market became an important element of composition of the port landscape. Due to its monumentality in relation to the surrounding buildings, the Market establishes itself as a *permanence*, along with the urban river landscape evolution. Araújo (2013) believes that monuments and singular buildings remain present in the organization of the landscapes, due to the load of values and meanings that they aggregate, lending a structuring value to the sites where they are located.

With the decline of navigation, in 20th century, the port of Cuiabá has become a place for fishing and the 'Mercado do 2º Distrito' turned into the main fish market in the city, known as "Mercado do Peixe" (Fish Market).



**Figure 02: Urban plan of “Porto” in the 18th century. 1) Larga Street (current Av. XV de Novembro), 2) quay, 3) Prainha Creek, 4) Church of São Gonçalo do Porto. Infographic produced from map detail of 1786. Source of original map: Reis (2000).**



**Figure 03: Urban Plan of “Porto” in the 19th century. 1) Larga Street, 2) Quays, 3) Prainha Creek, 4) Church of São Gonçalo do Porto, 5) Port Garden, 6) Fish Market, 7) Tram Route. Infographic produced from map detail of 19th century. Source of the original map: Freitas (2011)**



**Figure 04: View of the Port of Cuiabá. Date: Beginning of the 20th century. Author: unidentified. Source: Infographic adapted from photograph of the Graphical Album of the State of Mato Grosso, Corumbá, Hamburg, January 1914. Research conducted at NDIHR-UFMT. Caption: 1) Fish Market, 2) Port garden, 3) quay.**

The 20th century brought many changes to the river landscape of Cuiabá and to the morphological relations between the city and the river. The changes began in the 1920s and 1930s with the Amazon integrating policy and expansion of agricultural frontiers toward the Central west and North of Brazil. These policies were developed with the opening of highways and massive investments in road transportation. In this context, Cuiabá establishes itself as a pole of commerce and services of this new colonizing in the northern region of Brazil. Between the 60s and 90s, the population of the city increased from 56,826 to 402,813 inhabitants, and in 30 years the city welcomed a new population.

The construction of Brasilia, the Modernist Capital of Brazil, also reflects on this new moment in Cuiabá. It increases the power of attraction to peripheral urban centers and spreads a new type of architecture, a new city (SILVA, 2010). Cuiabá lived a period of renewal and construction of a new identity.

After this accelerated process of urban growth and modernization, a new river landscape emerges in Cuiabá. The rhythm of the city has changed, the automobile and all its mobility apparatus reconstruct and dynamize this landscape, but its spatialities of the previous centuries can still be perceived in the urban fabric, from certain urban facts that persisted, in spite of the great transformations experienced during that period.

### 3.3. URBAN POLICIES AND PRESERVATION MODELS

The emptying and spatial degradation of historical areas was a process experienced on large scale in the Brazilian cities. In the 20th century, these spaces gradually lost their original roles, distancing themselves from the new models of the city life. Forgotten and at the same time overwhelmed by the real estate market and urbanization progress, the Cuiabá Port barely crossed the wave of progress and urban development in the 60s and 70s. Lacking urban resources, public policies, planning and protection instruments, the Port becomes an underused, marginalized and devalued area of the city.

But despite the emptying of many buildings and changes of its original uses and meanings, the port landscape seems to have remained active in some social practices. Practices that sustained a very peculiar way of life, developed from fishing and trading in a large open market in the area around the Fish Market (built in 1899). This open market was permanent and gained large proportions, reaching the point where the fair buildings almost blocked totally the visualization of the Fish Market building and the Cuiabá river (Figure 05).



**Figure 05: Mercado do Peixe (Fish Market) and Port Fair, Year 1993. Source: Image Bank of the City of Cuiabá, Volume III, Arpi 201 to 301 / July of 1997. Municipality of Cuiabá, IPDU**



**Figure 06: Fish Market / River Museum Year: 2004**

At the end of the 20th century, the reinforcement of the notion of patrimony emerged as starting point for urban interventions in several Brazilian cities. The return toward historical spaces was consolidated as a reaction to the new socio-spatial realities that historical areas have been presenting. Authors, such as Pallamin (2006), believe that urban intervention initiatives would be developed with the idea of a restorative urbanism, which would result in a series of public policies and investment programs in historical centers, based on physical-material recovery procedures of the architecture, with the replacement with more profitable activities.

From the 1980s, the wave of urban interventions, already ongoing in Brazil, reached Cuiabá. The port landscape, around the 'Mercado do Peixe' is now the stage of competitions, projects and interventions. Driven by changes of meaning and new models of preservation, the river landscape was seen, from an economic and cultural point of view, as an underexplored area. Therefore, some ideas arose in the sense of valuing and preserving the river landscape.

In a context of changes in values and preservation models of heritage assets, an overlapping process of urban norms, plans and projects has begun with the purpose of preserving, revitalizing, enhancing and reclassifying the river landscape of the 'Porto'. But in this overlapping layers of meaning, it seemed that some ruptures happened with the ongoing representations and practices in the landscape. In order to implement the

municipality's intentions, which consisted in conferring visibility, valorization and access to the river bank and to the historic building, it was necessary to reallocate commercial and housing developments installed in the area.

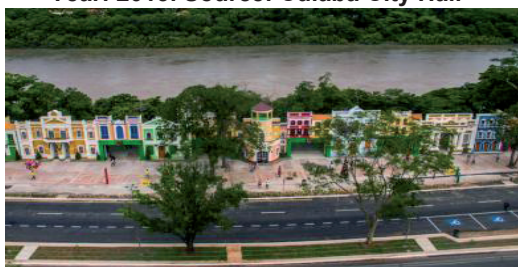
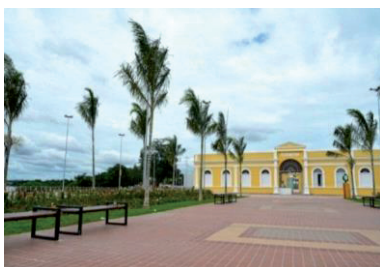
Practically, it was observed a new urban segregation, where the occupants of the 'Porto' landscape had to give way the space to the economic goals that these areas were supposed to absorb, mainly the touristic and cultural sectors. Vescina (2010: 42) observes that a limited conception of heritage has frozen the truly and strong production of local culture, engendering social costs to create a scene rather than recreate a living patrimony. Vescina (2010) also says that the implementation of new social and economic dynamics, without displacing the poorest residents, has been one of the most difficult challenges of urban reconstruction in Brazilian historical centers.



**Figure 07: Fluvial landscape of the port - Porto Cuiabá Project. Year: 2013. Source: Cuiabá City Hall**



**Figure 08: Historical House set in front of the River Museum. Porto Cuiabá Project. Year: 2013. Source: Cuiabá City Hall**



**Figure 09: Port waterfront: River Museum and scenographic houses, date: January 2017. Source: Cuiabá City Hall**

Following the preservation models that accept and stimulates the reinvention of heritage assets as a cultural product, the 'Mercado do Peixe' - a building that had an alive use and meaning - was reinvented as a *memory site* (NORA, 1993) through a process of curation (CHOAY, 2006) that renames it as 'Museu do Rio' (River Museum), in a process where only its material forms survive. The uniqueness spatiality of the Cuiabá port and the complexity of the relations established in the place were reduced to a museum. The empty space, cleaned and requalified for tourism and leisure, took the place of the representations established by everyday experiences in the area.

The 'Museu do Rio' was presented as an isolated element of the daily life of the landscape, creating a scene that doesn't reflect the urban site and the social practices

that gave it meaning (Figure 06). Choay (2006: 229) asks what would be the historical value of a building or a group of buildings without its temporal linearity, built by history, apprehended and preserved by collective memory. Without the support of social practices, the frame of reference that brought meaning to the port landscape is obscured, and the landscape becomes a scenario of itself.

Preparing to be one of the host cities of the World Cup soccer games in 2014, Cuiabá received a series of public investments in infrastructure and urban services. Guided by the logic of economic dynamism, the municipal government of Cuiabá elaborated in 2013 another project of urban intervention in the area of 'Porto'.

This project aimed to revitalize the region around the 'Museu do Rio' (former 'Mercado do Peixe') by constructing a big square and a waterfront around the historic building. Around the square would be located a gastronomic center, made up of large restaurants and a set of historic houses, "revitalized" with ornaments and colors referring to an aesthetic of restored historical areas (Figures 07 and 08). Intended to attract and keep a very specific audience, the project incorporates an arsenal of devices, leaving the port landscape of Cuiabá unrecognizable from its original identity, and at the same time highly recognizable by the standards used in revitalized areas.

In this "revitalized" environment, culture consumers would feel comfortable and familiar with the stereotypes of patrimonial sites. Palm groves, squares, benches, fountains, lampposts with ancient aesthetics, colorful sets of colonial buildings would all be "harmoniously" integrated into contemporary buildings.

Coffee shops, restaurants, handicraft shops and revitalized public spaces make up a landscape where the reminiscences of the memory – the *permanencies* – such as the Market Building, the urban fabric and the relationship with the Cuiabá River seems to have little relevance. The sensation of a safe and pleasant space is so strongly aspirated in the design that it seems unnecessary to indicate any sign of identity or uniqueness to this landscape. Choay (2006: 226) believes that many interventions on historical areas, rather than helping to preserve local differences, as the drafters of the Nairobi Recommendation expected, tends to become an instrument for homogenizing the identity of places.

## 4 CONCLUSIONS

In the images of Cuiabá waterfront, we see no more than a *mirror of heritage* (CHOAY 2006), a distant reflection of a landscape. Its original differences, conflicts, heterogeneities, banalities and livelihoods have been eliminated and replaced by a scenic landscape where prevail the "beauty", the "peaceful" and the generic identity.

With known risks and losses already experienced in many other places, we ask ourselves why we blindly follow models of preservation that deny the strength and identity of sites and their inhabitants.

Perhaps, the answer is the observation shared by several authors that the preservation model currently practiced in Brazil – which promotes the homogenization of the places – is the response of societies, to a need of building a strong and consistent self-image to deal with the profound ongoing global transformations. Transformations that these societies neither dominate, nor can control, and that seems to question their own identity.

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# SOCIAL HOUSING AS A HERITAGE SITE. REFLECTIONS ON THE URBAN REHABILITATION OF CAÑO ROTO

Noelia Cervero Sánchez

P.U. Architecture. EINA, University of Zaragoza. María de Luna, 3. 50018 Zaragoza, Spain,  
e-mail: ncervero@unizar.es

## ABSTRACT

In this paper intangibility matters are interpreted as those related to the historical, architectural or heritage value of a work of architecture. They constitute a series of values that overlap the tangibility matters or those related to the physical processes that condition its proper functioning.

Through the urban rehabilitation of Caño Roto estate, an emblematic work of the 1950s residential architecture in Spain, we will reflect on the lack of patrimonial protection of modern movement architecture, and on the specific criteria to be applied to this type of intangibility matters.

Keywords: Social housing / Heritage / Modern Movement / Urban rehabilitation / Caño Roto

## 1 INTRODUCTION

The years after the Civil War (1936-1939) implied a severe international isolation for Spain, which caused the rejection of the European avant-gardes and the promotion of an architectural style characterized by folklorism, regionalism and traditionalism (Vázquez, 1987: 13). At the end of the 1940s, this official line began to be questioned when it was proved its inability to solve one of the biggest problems of the moment: the lack of housing in the cities due to the massive migration from the countryside, caused of the exhaustion of the agricultural production model (Sambricio, 2003: 226-243).

The results of the policy implemented during these years were analyzed in the Fifth National Assembly of Architects, convened by the General Directorate of Architecture (*Dirección General de Arquitectura*) in 1949. It revealed the limited effectiveness of the measures taken so far. Faced with this reality, the heads of the two public institutions responsible of housing construction, the *Instituto Nacional de la Vivienda* (INV) and the *Obra Sindical del Hogar* (OSH), understood the need for a change of course in housing policy. Consequently, they applied the European experience of reconstruction after the Second World War and returned to the rationalist models of minimal housing developed in the interwar period (Sambricio, 1999: 26-27). From the urban planning perspective, the need to develop a National Plan, capable of studying neglected areas, began to be considered, setting the basis of the *Ley del Suelo* of 1956. From the building perspective, the search for minimum housing solutions and maximum adjustment of execution budgets became fundamental. The first initiatives were not carried out, but they set in motion a process in which the new proposals showed their inclination for a reconstruction policy that tried to modify the type of house used until the moment, in order to raise an alternative way of inhabiting.



From then on, a cautious opening of the country towards the architecture that was being built outside its borders began, and it was considered as a viable option (Esteban 1999: 60). Projects such as the Marseilles Unité d'Habitation were widely disseminated in Spain, not only by specialized magazines, but also by the more conservative periodic press such as *Pueblo*, which praised it as a paradigm for the future dwelling. Le Corbusier became a benchmark, but given the great economic limitation that characterized the country, his projects were not feasible, so other types of construction should be considered. The search for referents extended throughout the 1950s, motivating the new generations of architects to follow the architecture of Germany, Italy, Holland, Belgium, the Nordic Countries, the United States or the humbler conceived in Brazil. On this basis, a debate on modernity started. Establishing ties with the past was not as important as to move towards overcoming an outdated architecture. Building was rationalised, to achieve: rethink building materials and systems, redefine minimal housing programs and establish viable forms of access to it for a middle class with no economic capacity.

All this body of knowledge is reflected in the Estates Policy (*Política de Poblados*) that was developed in Madrid from the year 1954 on. It was based on an architectural response that forced to put into practice the imported theoretical models, taking the economy to the limit and looking for functionality, not from aesthetic or formal considerations, but from a social and constructive necessity. INV sought alternatives through the experimentation performed by a whole new generation of architects who ended up defining urbanistic and typological models, different from those developed until then. They contributed to the fact that between 1956 and 1965, estates colonized the periphery of Madrid: F. Sáenz de Oíza in Entrevías; A. de la Sota and J.L. Romany in Fuencarral; L. Cubillo in Canillas; M. Ambrós Escanellas in Manoteras; J.A. Corrales, R.V. Molezún, J. Carvajal and J.M. García de Paredes in Almendrales; R. Leoz de la Fuente y J. Ruiz Hervás in Orcasitas or A. Vázquez de Castro and J.L. Iñiguez de Onzoño in Caño Roto. The audacity of their approach contrasted with their locations, unlikely to fit in the city, and with their constructive quality, conditioned by traditional materials incorporated to innovative systems.

## 2 CAÑO ROTO, CULMINATING WORK OF SOCIAL EXPERIENCE

The Caño Roto Estate (*Poblado Dirigido de Caño Roto*) constitutes, in words of Fullaondo (1969: 34) "the culminating work of Madrid's social experience", because it was one of the major contributions to the residential model. Its construction was carried out between the years 1957 and 1963 by the architects J.L. Iñiguez de Onzoño and A. Vázquez de Castro, promoted by the Social Estates Management (*Gerencia de Poblados Dirigidos*) and under the supervision of the INV, as one of the measures of the Social Emergency Plan (*Plan de Urgencia Social*) of Madrid. The degree of personal involvement of the architects in the project was such that it led them to develop a new typological and planning model (Calvo del Olmo, 2013). This is a set of 1,606 dwellings and communal services, which functions as a unitary urban environment that ensures the adaptation to both the location and the needs of the population.



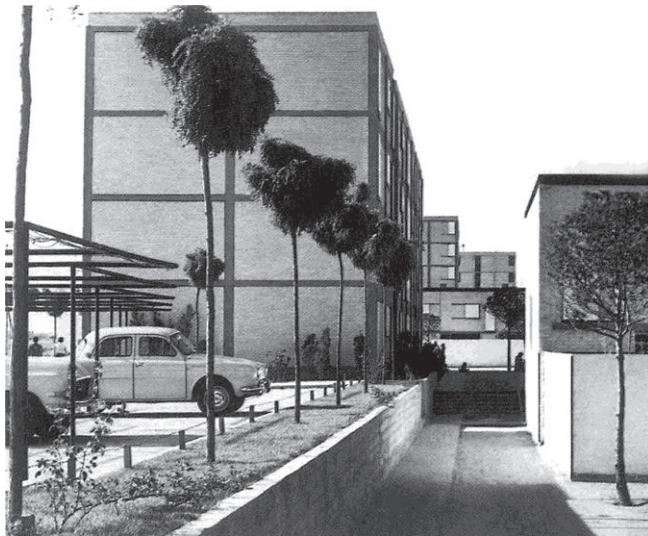
**Figure 1: Aerial view of Caño Roto, 1960. (Source: *Consejería de Medio Ambiente y Ordenación del Territorio de la Comunidad de Madrid Specialist Documentation Centre*)**

It was built in continuity with an existing estate (*Poblado de Absorción de Caño Roto*), under the idea of forming a self-sufficient neighborhood unit<sup>1</sup> (Fig. 1). The planning rough terrain was outlined, following the criterion of adaptation to the place, which led to the rethinking of the CIAM postulates. Although the development was orthogonal, according to the solar paths, the result was a connection between building and territory. A dialogue with the geography and a control of the perceptions were reached with a minimum manipulation of the land. In the resultant urban mapping, free areas are limited to the human scale, reminding popular spaces, based on references from England, northern Europe or Italy, adapted to local conditions (Fernández Galiano, 1989). It was based on modern movement architecture, in which the volumetric variety and material uniformity provide a high degree of abstraction.

The neighborhood, of mixed development, is formed by linear blocks and towers, and by single-family units. The six-floor linear blocks are arranged in the lower and outer zones limiting the distant vision, to separate the public space of the surroundings. The single-family units are grouped into compact sets with interior situation, from where the visuals are conditioned by four-floor blocks, that establish a half scale filter, and six-floor towers, that are arranged in the higher points benefiting the permeability and behaving as a perspective background. The establishment of this range of pieces achieves the generation of different intermediate areas, getting the contrast between spacious and dense zones in such a way that a close relation between the scale of the constructed volumes and the free areas is maintained (Flores, 1964: 36).

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<sup>1</sup> *Plan Parcial de Ordenación del Poblado Dirigido de Caño Roto*, A. Vázquez de Castro and J.L. Íñiguez de Onzoño, 1968. *Consejería de Transportes, Vivienda e Infraestructuras de la Comunidad de Madrid* Archive. Code: 135.70.



**Figure 2: Public area, 1960. Source: *Consejería de Medio Ambiente y Ordenación del Territorio de la Comunidad de Madrid Specialist Documentation Centre***

Free areas were called "measured free spaces" by A. Vázquez de Castro (Cánovas, 2013: 159-161) because they cope with defined and controllable scales (Fig. 2). The blocks and towers open up to large areas, which in addition to their function of building separation promote the meeting between the population, as in the traditional Spanish square. They are dynamic spaces of variable backgrounds, and by materials that contribute with their textures to scale control. Unlike these dilated spaces, the accesses to the single-family units are through narrow streets that can be developed at a constant level or can take the lines of maximum slope, providing the design with a vernacular character (Cánovas, 2013: 53-54). The constructed volumes contain a total of twelve different housing types. This "laboratory of typologies" provided some of the brightest housing models, not only of these estates (the *Poblados Dirigidos*), but also of all the social developments carried out at the time. With them, an alternative was offered to the participative process of joint design with the users proposed initially, without neglecting the understanding of the social reality.

The Caño Roto Estate (*Poblado Dirigido de Caño Roto*) as a result of the research that incorporates modernity into Spanish reality in the 1950s, constitutes a work of unquestionable historical, urbanistic and architectural value. Proof of the interest it arouses is its great diffusion from its first years of life, both in the national media, which began to address it with assiduity in magazines as *Arquitectura* (1959), *Hogar y Arquitectura* (1964) y *Nueva Forma* (1973 y 1974), and in the international media, with publications in *L'Architecture d'Aujourd'hui* (1959), *Werk* (1962), *Arquitectura: Revista de arte y construcción* (1963) or *Baumeister* (1967). In addition to its dissemination in periodicals, it is a work that, individually or as part of the architecture of the *Poblados Dirigidos*, continues to be analyzed by experts and critics of contemporary architecture until now. It has been widely photographed by Kindel (Alcolea, 2004: 158) (Fig. 3), and in 1961 C. Flores includes it in "the compilation of the most estimable works carried out by Spanish architects during the last lustrums" (Flores, 1961, v2: 201-213) as the project addressed more extensively, which gives an idea of the value assigned to it within the national scene. Years later, with E. Amman (Flores, 1967: 98), he emphasizes that, in addition to its spatial and volumetric characteristics, the greatest

importance of this work is undoubtedly its innovative approach. This point of view is shared in 1983 by L. Moya (1983: 244), who underlines how its urban and architectural quality involves a serious research effort, in terms of housing typologies and urban morphology. Its complexity, outstanding in relation to the rest of the *Poblados Dirigidos*, is defended by, for example, L. Fernández Galiano (1989: 65) or A. Capitel (1983: 135).

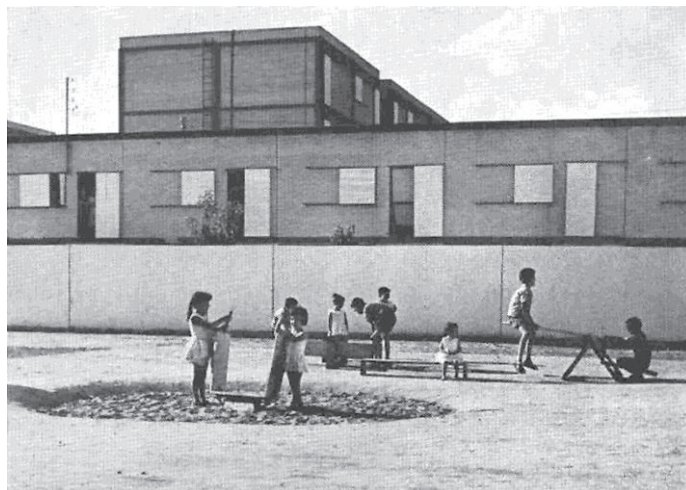


Figure 3: Photography by Kindel. (Source: Hogar y Arquitectura, 1964: 26)

This recognition of the estate's interest as an urban and architectural work, is reinforced by the mention awarded at the 1972 COAM Awards (1994: 29)<sup>2</sup>. However, it has not been included in any protection catalogue, which would confer a patrimonial value. That is why its rehabilitation, started in 1994, was only conditioned for its qualification in the municipal planning regulations (*Plan General de Ordenación Urbana de Madrid, 1985*) as an urban land with maintenance of the buildings.

### 3 TRANSFORMATION OF CAÑO ROTO

The extreme budgetary limitation of its construction and the lack of maintenance caused that, in the early 1970s, constructive pathologies began to be perceived, and in the 1990s these led to a situation of general precariousness. Due to the degradation of the estate, the process began when the *Instituto de la Vivienda de Madrid* (IVIMA) considered if its total demolition and replacement was necessary, as it was being performed by the *Plan de Remodelación de Barrios de Madrid* (Moya, 1987). Two assessments were commissioned, one in 1991 to the technicians of the Neighbors Association<sup>3</sup>, and another in 1992 to the team Aroca Partners and Euroconsult<sup>4</sup>. Both agreed on the feasibility of the rehabilitation of the residential building, with the

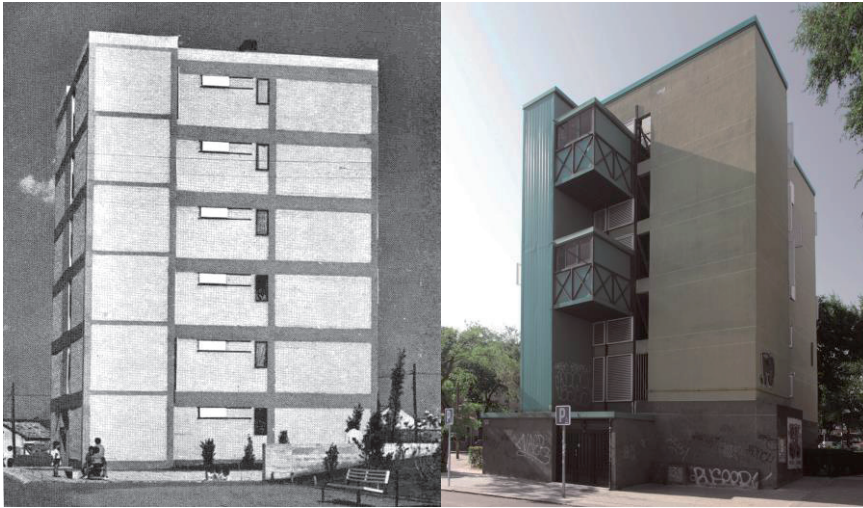
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<sup>2</sup> The jury consists of: J. Suevos, A. Vallejo, R. Fernández Huidobro, M. Sainz de Vicuña, A. Hernández Morales, V. Junco, L. Anibarro, F. Sáenz de Oíza and F. Macías.

<sup>3</sup> *Rehabilitación del Poblado Dirigido de Caño Roto, Madrid: Documento resumen*, E. Hernández Fernández, J.L. López Delgado and G. Ruiz Palomeque, s/f. CREA architects archive.

<sup>4</sup> *Estudio del Estado Actual del Poblado de Caño Roto, Madrid*, Aroca Partners and Euroconsult, 1992. CREA architects archive.

replacement of certain buildings that presented irreversible problems<sup>5</sup>. This opinion, coupled with the situation of the estate in lands classified by the municipal planning regulations (*Plan General de Ordenación Urbana de Madrid, 1985*) as “urban land regulated by the *Norma Zonal 3*, with maintenance of the building”, supported the decision to carry out an urban rehabilitation with particular substitutions<sup>6</sup>.



**Figure 4: Tower in 1964 and 2016. (Sources: Hogar y Arquitectura, 1964: 21, and own elaboration).**

The urban rehabilitation of Caño Roto<sup>7</sup> was carried out between 1994 and 2001 within a Program developed in different neighborhoods of the municipality of Madrid. It consisted of the adaptation of the public space, with redevelopment and improvement of the infrastructures, and the adequacy of the buildings, dealing with the structural and functional issues<sup>8</sup>. Intervention in the public space involved the adaptation of the community equipment of the urbanization, linked to free spaces, roads and infrastructures, and run parallel to the building rehabilitation. It was conceived under the premise of being able to be undertaken without having to relocate the residents during the process and to update the building, as far as possible, to the current legislation for new construction. It affected the entire residential buildings, with the exception of a tower previously replaced in response to an emergency situation. 1,165 dwellings, that is to say the total of high-rise buildings, and 30% of the single-family units were adhered to the intervention (Ruiz Palomeque, 2001: 146-151). The structural suitability was focused on providing firmness and solidity to the buildings

<sup>5</sup> *Informe y valoración: rehabilitación privada del Poblado de Absorción y Dirigido de Caño Roto, Technical services of the Consejería de Política Territorial de la Comunidad de Madrid, 1994. Consejería de Medio Ambiente y Ordenación del Territorio de la Comunidad de Madrid Specialist Documentation Centre. Code: E FG 25 ARQ 94068.*

<sup>6</sup> The complementary building presents worse conditions than the residential one. The report of Aroca Partners and Euroconsult suggests its substitution, but it is not part of the intervention.

<sup>7</sup> *Convenio de la Consejería de Política Territorial de la Comunidad de Madrid y el Ayuntamiento de Madrid para la Rehabilitación Integral del Poblado Dirigido de Caño Roto declarándolo como Área de Rehabilitación Preferente, 1994. Consejería de Medio Ambiente y Ordenación del Territorio de la Comunidad de Madrid Specialist Documentation Centre.*

<sup>8</sup> It is necessary to replace two blocks, due to their instability by seating in their foundations.

whose resistance had been reduced, by: stabilization of seats in foundation; damage repair of concrete structures; and reinforcement of the load walls. The functional adequacy was focused on improving: the accessibility, providing the six-floor buildings that demanded so with practicable accesses and elevator; sealing and thermal insulation of the facades; sound insulation; and renewal of general facilities and services networks.

The process of building rehabilitation began with a campaign of systematic and planned dissemination of the actions to take, which aimed to encourage the formal adherence of residents. These were organized by Communities of Owners and participated in the decision making through agreements. In such a way that the project was conditioned by the criteria of the population, of functional character, which caused that it formally moved away from the conception of the original project (Fig. 4). These principles prevailed against the proposals of the *Dirección General de Arquitectura de la Comunidad de Madrid* (DGA) and architects of the original project, A. Vázquez de Castro and J.L. Íñiguez de Onzoño, who put their architectural interest ahead of other factors such as the economic or functional ones. Before the beginning of the operation, DGA participated in various assemblies with technicians and neighbors and, pretending to be an active part of the project, expressed its position regarding the criteria that shaped it<sup>9</sup>. From their point of view, the estate rehabilitation could not be conceived as a consolidation-repair operation, because the respect for the original architecture should be essential to provide a new design consistent with that one. They appreciated the great interest of the participation of the original project architects, who were still working, beyond the exclusive relation with the dwellings owners and of questions outside the project, that condition the result of the operation. This vision is currently maintained by A. Berlinches, Deputy Director of the DGA during the intervention, who felt the lack of landscape and compositional values, which would have provided architectural criteria of "certain content and interest"<sup>10</sup>.

A. Vázquez de Castro believes that the final result was conditioned by the strength of the Neighbors Association, which required the Administration to have a "tailor-made" operation as retribution for their homes' conditions for years<sup>11</sup>. As a private intervention, despite the subsidies, the *Comunidad de Madrid* yielded to the pressure of neighbors and media, thus continuing a policy inherited from that developed in the whole city periphery since the 1980s, which, in his opinion, lacks of an urbanistic criterion. His approach to intervention in the estate would have been that which, providing the buildings habitability conditions, according to the moment, would have restored its original appearance, quite distorted by individual actions of residents. The substitution he performed of one tower, declared ruin in 1994, with the elevator integrated inside the volume and light terraces juxtaposed to the facades, is a sample of his criterion. Regarding the intervention, he shows a radical opposition to the formal result, because he thinks that it does not keep any respect for the original work, and he hopes that, over time, the values that it once had, could be returned.

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<sup>9</sup> *Rehabilitación del Poblado de Caño Roto: Dossier General de Actuación, DGA Comunidad de Madrid*, 1994. *Consejería de Medio Ambiente y Ordenación del Territorio de la Comunidad de Madrid* Specialist Documentation Centre. Code: E FG 25 ARQ 94068.

<sup>10</sup> Interview with A. Berlinches Acín. Date: 11.11.2014.

<sup>11</sup> Interview with A. Vázquez de Castro. Date: 12.11.2014.



**Figure 5: Public area, 2016. (Source: own elaboration)**

Apart from these criteria, the actions related to the urban rehabilitation of the estate are conceived as a functional response to the deficiencies and neighborhood demands, in which the economic viability of the solutions prevails. The most outstanding elements of the new buildings' image are the volume addition to improve the accessibility of the blocks and towers, and the contribution of a new facade that rearranges the voids, to unify the alterations of the original composition that the users had introduced. They both were raised with the idea of bringing uniformity to the neighborhood, without considering the recovery of its previous composition. In relation to the reurbanization of the intermediate public spaces, the new treatment equates them to the rest of the Madrid periphery streets, both for the materials used and the codes applied, which neither establish connections with the original concept (Fig. 5). In any case, the approval of the intervention project supposed compliance with the municipal planning regulations (*Plan General de Ordenación Urbana de Madrid, 1985*), which dedicated their ninth Title to the safeguarding of urban aesthetics, requesting the defense of urban image and the promotion of its valuation and improvement (Article 9.11.3). In this way, the City Council considered that the action was convenient and appropriate, without questioning whether the work, which was not catalogued with any type of protection, could demand a more conservative or similar to its original values treatment<sup>12</sup>.

## 4 CONCLUSIONS

With the study of this intervention, we can understand the overlapping of tangible issues, which condition the proper functioning of the estate, and intangible issues, that affect its historical, typological and environmental values.

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<sup>12</sup> Municipal planning regulations (*Plan General de Ordenación Urbana de Madrid, 1997*), classified the estate as a Homogeneous Set with Volumetric Protection Degree. In Section Six, Homogeneous Sets are called "all neighborhoods conceived with a unitary project, usually constructed simultaneously and that transcend the merely architectural fact to encompass other urban elements, such as specific road network, garden area, common urban furniture, etc., whose historical, compositive and urban values have advised their inclusion as protected areas".

If we consider the tangible intervention issues, we find unequal solutions. The constructive criteria of the structural actions and the facade improvement, provide conditions equivalent to those required in a new building. They also imply an improvement in their energy efficiency, with a 46% reduction of the demand for heating and primary energy consumption and a 66% reduction of emissions, so this aspect is considered adequate. Regarding the accessibility through common spaces of high-rise buildings, the measures are not effective enough, with reduced free heights in halls and elevators that land in intermediate levels between the floors. If we analyze the urbanization, the actions contribute to a considerable improvement of its functioning and its accessibility. The rehabilitation therefore achieves a significant improvement of the building's functioning and urbanization, maintaining deficiencies linked to accessibility.

If we deal with intangible issues, despite the fact that it is a matter of providing the estate with a unitary urban image, its characteristic values are not taken into account. In fact, when planning the operation, the rehabilitation is chosen instead of the building replacement only because the structural instability can be corrected. Therefore, it deals with merely tangible matters, without taking into account the architectural interest of the whole neighborhood. This same criterion is maintained during the intervention, as the repercussion of solutions on the work's identity is not measured, being the less effective ones those that have the biggest impact.

As a consequence, the large formal difference between initial and final states, conditioned by the small consideration of intangible issues, reveals the lack of patrimonial protection of this type of property. This case study leads us to question whether maintaining the building implies in itself that the process can be considered conservative, and to consider which should be the appropriate guidelines to be so.

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# THE WORLD PATRIMONIALIZATION PROCESSES: VER-O-PESO, BRAZIL

Maisa Fonseca de Almeida<sup>1</sup>, Joana D'Arc de Oliveira<sup>2</sup>

<sup>1</sup>Instituto de Arquitetura e Urbanismo (IAU), Universidade de São Paulo (USP) - Avenida Trabalhador Sancarlense, 400 - São Carlos, SP, Brazil - e-mail: maisafonseca@usp.br.

<sup>2</sup>Instituto de Arquitetura e Urbanismo (IAU), Universidade de São Paulo (USP) - Avenida Trabalhador Sancarlense, 400 - São Carlos, SP, Brazil - e-mail: joanadarcoliveira@usp.br.

## ABSTRACT

Concerning the contemporary debates on the preservation of *material and immaterial cultural heritage*, this work consider the importance of the immaterial heritage in *cultural policies* of the material heritage in a historic urban ensemble. It was analyzed the transformation process of a singular asset into a global cultural asset, through the *Ver-o-Peso patrimonialization process*, in the city of Belém (Brazil), according to the international and multilateral cultural heritage preservation agency *UNESCO*. The research methodology focused on the analysis of its application documents, which explains the reason why this cultural property should be named and classified as world cultural heritage. This research allows us to observe the existence of some contradictions in this patrimonialization process and in its concept of heritage since the immaterial heritage is mentioned in the application documents even though there is no recommendation and preservation specific plan to preserve its symbolic expression and contents.

Keywords: Material and immaterial cultural heritage / Cultural policies / Ver-o-Peso Patrimonialization Process / UNESCO

## 1 INTRODUCTION

In the contemporary debates on the preservation of material and immaterial cultural heritage, there is still reluctance to consider the influences of urban development, commodification, cultural industries, tourism and, mainly, the local historical and cultural contexts. However, if not considered, would mean to deny of the conditions in which historical goods exist today (CANCLINI, 1994).

This current context leads us to realize that the set of goods and traditions that have arisen and been maintained in the territory historically inhabited by a community (CACLINI, 1994) is exposed to a wider universe fed, informed and culturally related to other levels of interaction beyond the local community. And that can lead to further and relevant discussions of the global. Through these relations, many new habits have been incorporated, transposing the original borders, previously not easily transposed by a community.

In this context, heritage preservation faces a dialectical question regarding the transmission of selected historical accounts - to remember or forget? - questions related to history and memory, and the selection of historical layers that will be preserved and protected to future generations. The decision of preservation interferes directly in the life of the local community and the configuration of their cultural landscape. Therefore, these actions should be based on in-depth observations of the cultural assets

ensembles, according to a socially and culturally inclusive perspective, aiming to understand the territory, its complexities, its specificities and its relations, in order to structure permanencies, continuities and the preservation of the cultural relations between inhabitants and the place.

This perspective of preservation is necessary to confront the process of commodification and globalization of culture. This concept of culture, according Jean-Pierre Warnier (2000), is represented as a totality complexity of the man as a member of the society. And we understand that the idea of totality and culture is based on the site characteristics and habits, constituting aspects that can not be seen as independent once linked to this society. This concept considers the fact that cultures are unique, extraordinarily diverse and related to specific (local) places in the world.

However, in this context, Ortiz (2007) affirms that in the contemporary world, the culture is not being globalized, it has indeed become a global culture as a result of global markets, exchange of goods and services, and technologies. And it is embedded in a process of new world perspective, that has its own operation rules, in a new corporate and advertising system that is associated with the new communication technologies, helping to create an interculturality, which do not conform a global culture.

As a case study, we selected the analysis of the transformation process of a singular into a global cultural asset in Latin American context, the Ver-o-Peso complex heritage (Fig. 1, 2, 3, 4, 5, 6 and 7), in the city of Belém (Brazil), according to the world heritage concept defined by an international multilateral agency, the United Nations Educational, Scientific and Cultural Organization (UNESCO). Thus, this research analyses the results of this process in the cultural and social local community and its inhabitants. The research methodology focused on the analysis of the application documents of this cultural asset which explains the reasons why the cultural good should be named and classified as world heritage.

This case of study allows us to observe the existence of some contradictions regarding the preservation of the immaterial heritage in relation to the material patrimony in the process of world patrimonialization, since that immaterial heritage is mentioned in the world heritage application documents but there is no resolution and preservation specific plans to effectively preserve its symbolic contents.

## **2 METHODS**

The analysis method is justified on a study about the cultural preservation policies in Brazil, from national, regional and municipal legislation levels, established in the bibliographical references of the authors Maria Cecília Londres Fonseca and Leonardo Barci Castriota.

This interpretation was structured on the scientific document of the Ver-o-Peso application document, a preliminary document, still incipient, composed by few specific texts, no cartography and many historical documents, concerning some documents records of the immaterial heritage by the Brazilian Institute of the National Historical and Artistic Heritage (IPHAN). Other documents have also been consulted related to the current legislation for preservation of cultural heritage, such as: historical documents related to the foundation of the historic city center, its expansion through the territory in the city of Belém.

In the context of Belém and the Amazon region, our understanding of the absence of a measuring and a total plan of the heritage of the city, such as a network system, is structured according to the author Saint-Clair Cordeiro da Trindade Junior.

In addition to this primary documentation, we refer to oral history through interviews with intellectuals and civil society actors. These interviews are related to the Ver-o-Peso heritage application process, and they were carried out with persons who are living in the city of Belém, based on a previously prepared script about the interview. Among other issues, the interviews allowed us to perceive the territorial dynamic of the city in which the object of study is located and the relation of the cultural asset and its surrounding areas, according to some criteria articulated to new territorial dynamics.

The interviews in Belém helped us to better understand the specific issues of the context of the Amazon region, and the theme of nature and immaterial heritage emerged as a central issue in our work. That perspective guides our understanding and structured our reflections on the theme and concept of this cultural heritage. This comprehension also reinforces the necessity of an enlarged, better structured territorial approach in the application process of Ver-o-Peso complex heritage. This application should be idealized as a system of heritage networks linked to the territory, such as an idea of territorial heritage.

### 3 VER-O-PESO CULTURAL HERITAGE

Belém is the capital city of Pará State and it is formed by 1.5 million inhabitants (IBGE, 2010). Its territory is distributed across the continent and thirty nine islands. These characteristics offer the city a diversity of local gastronomy, natural products (mainly from the forest) and folk art.

Ver-o-Peso complex is a heritage site listed by IPHAN since 1977 (Fig. 7), this classification comprises its urban layout, monumental buildings, rows of houses, iron markets and urban furniture, squares and docks for boats. Its spatial configuration was established and consolidated between the 17<sup>th</sup> and the first decades of the 20<sup>th</sup> century. Its origins are attributed to the implementation, in the mid-17<sup>th</sup> century, of a tax collection station at the mouth of an *igarapé* where there was a small natural port now corresponding to the docks (UNESCO, 2017).

The experience of Ver-o-Peso patrimonialization process, related to a social, cultural and territorial dimension, reveals some aspects that we consider controversial when applied in a singular, diverse and particular context (WARNIER, 2000), as a consequence of the operation and the conceptual precept of cultural assets by UNESCO's classification.

The Ver-o-Peso is a great open air market (Fig. 1, 2, 3, 4, 5 and 6), of extraction, agricultural and artisanal products brought from the Amazon region. It is formed by small and large fairs, stands selling popular products, as well as two markets (one selling meat and the other fish) extending along the Guajará Bay. It is in permanent relationship with the neighboring islands and the inland towns from which many of the products sold are brought. The Ver-o-Peso is, above all, a place of intense social life and cultural exchange, where traditional labor practices take place and a complex web of social relations is woven, involving not only trade of a commercial but also symbolic nature (UNESCO, 2017).

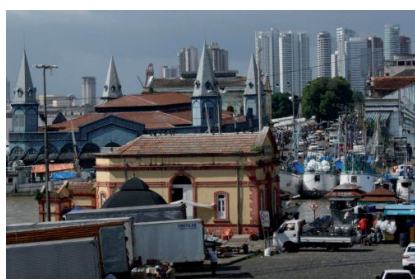


**Figure 1: View of the Mercado de Carne (meat market), Solar da Beira, and Ver-o-Peso's Open air market at the Guajará Bay. Source: IPHAN, UNESCO Dossier, 2014**



**Figure 2: Perspective of the open-air market Ver-o-Peso, Solar da Beira, and, at the back, one of the towers of Mercado de Peixe (fish market). Source: the autor.**

It has as a massive flow of people almost all day with a mix of activities connected to the consumption of popular products. Belém, 2016.



**Figure 3: Perspective of Feira do Açaí (açai market), Ver-o-Peso dock and at the back the Mercado de Peixe (fish market) in the beginning of a saturday afternoon, with some moored vessels and parked supply vehicles. Source: the autor**

Saturday is an important day and there is a big intensity and concentration of people in the area due the supply and distribution of products at Ver-o-Peso, specially due the greater traffic flow and some restrictions imposed in relation to the use of space in the other days of the week.

Image captured at Forte do Presépio, Belém, 2016.



**Figure 4: Inside view of the open-air market Ver-o-Peso at the flour sector. Belém, 2016 Source: the autor.**



**Figure 5: Herbalist of the stand "cheirosinha", Ver-o-Peso open-air market. Belém, 2016. Source: the autor.**

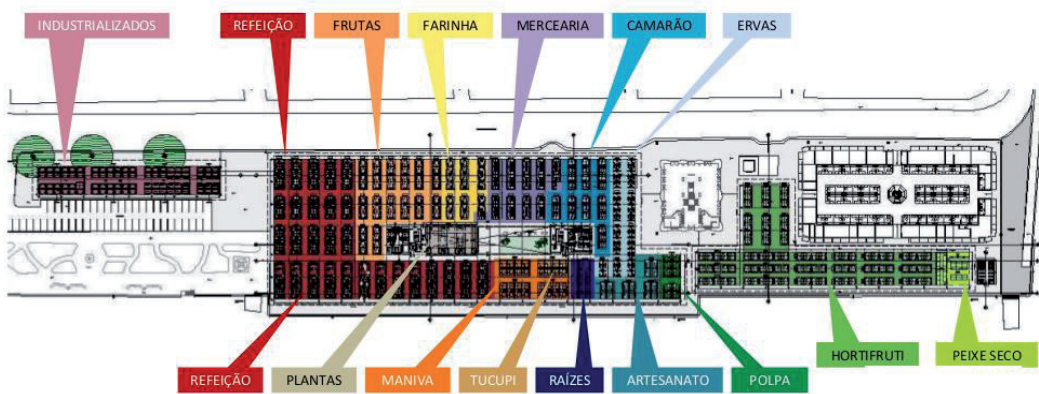


Figure 6: Sectorisation scheme of the open-air market Ver-o-Peso. Belém, 2016. Source: DPJ, 2016, p. 31



Figure 7: The architectural and landscaping complex of Ver-o-Peso and its elements highlighted in the heritage classified area by IPHAN. Belém. Source: the author based on Google Maps and LIMA, 2008, p.32

In this perspective of the local scale, is important to highlight some important initiatives

in the preservation policies overview in Brazil, searching to constitute more democratic preservation processes in this country. In this context, in the 70's, new fields of knowledge such as sociology, industrial design and technologies were integrated in the discussions about heritage preservation, and it culminates with the incorporation of an anthropological vision about heritage that was legitimized by the Brazilian Constitution of the year 1988.

At that moment, this concept and perspective of heritage allowed more innovative experiences regarding the conservation of Brazilian cultural assets and products, such as the case of the National Cultural Reference Center (CNRC). In addition, as an improvement of these experiences, the Brazilian National Inventory of Cultural References (INRC) emerged to register a larger dimension of heritage, incorporating its material and immaterial aspects.

For instance, in the case of Ver-o-Peso, one INCR inventory was made at the years of 2008 and 2010 - *Inventário de Referências Culturais do Conjunto Ver-o-Peso* - and it helped to register and better understand part of the cultural and symbolic dimension of the cultural asset. The importance of these kind of inventories-making - registry intangible cultural heritage - is highlighted when, in the case of Belém, the INCR is mentioned in the UNESCO's classification application document, recognizing the existence of a plural and complex heritage asset to be safeguarded in the city by IPHAN - the national preservation agency who indicated Ver-o-Peso to the world classification list. This plural, complex and living cultural heritage should be safeguarded through specially adapted means, and could not be compressed by only historic or masters plans document of the heritage assets - based on Western notions of preservation of property following the UNESCO's document candidature guidelines.

In this context, the scientific documentation of Ver-o-Peso candidature was based on the Ver-o-Peso National Inventory of Cultural References, with the participation of a local association - *Associação Ver-as-Ervas*.

The idea of patrimonialization, in our case, should be the relation between the metropolis and the forest, representing the metropolis biggest and greatest identity. The Ver-o-Peso ensemble expresses very well the synthesis of this context, but it is not about the Ver-o-Peso, there are several spaces that also express this identity. In this context, the Paracuri could be part of the cultural asset application to the world heritage, as well as other places, which are uncovered from the point of view of urban policies. I believe there is something very important, this culture is alive. The culture resists, together with its immaterial and material heritage, because people are there, its functions are there and they have been used. But there are not proper urban space and architectural forms that translate this cultural reference [into current policies] (TRINDADE JUNIOR, 2016).

According to this vision of Saint-Clair Trindade Júnior, in relation to the aspects that compose a cultural landscape in the city of Belém, the dynamism of the Ver-o-Peso cultural context configures a system that is not only concentrated in the central area of the city. It sets a network system placed in different parts of the city. It means it is present beyond the limits of the classified area of the cultural good (COSTA, 2015) and its social and territorial context have relations with the city as a whole. This Ver-o-Peso network of supply and distribution extends its function to other estuaries in the city, in a gastronomic network, and also a network system linked to the ICOARACI handicraft and others. And so these systems are distributed in several points of the territory and are considered "uncoverties" in relation to the existent cultural policies that guarantee the preservation of their existence.

## 4 CULTURAL REFERENCES AND CULTURAL POLICIES

In the Brazilian context, the definitions and approaches of the preservation of cultural properties have become more extensive since the 1970s, embedding the concept of cultural references (FONSECA, 2000). The idea of cultural references supported the elaboration and implementation of heritage policies as an auxiliary knowledge, and it also included cultural manifestations of collectives, to allow the recomposition of their values and functions, as well as their material and symbolic representation. In this way, the reformulation of these concepts related to the cultural properties constitutes new attempts to redefine the field of action and cultural approach in architectural and urban subjects.

Considering a cultural preservation perspective, to only consider a significant number of exceptional monuments in a certain site may *devitalize* it, since its complex and dynamic territorial use of that site has not been considered (FONSECA, 2000). For that matter, Maria Cecilia Londres Fonseca considers the concept of *cultivated land* for those regions and sites that have a history, traditions, and a built-in culture. She also states that the act of intervention, even if it aims to preserve the cultural heritage, implies a reorientation of the site use.

Thus, we consider important to emphasize the relation of cultural references in heritage sites, since they represent the historical and artistic value of the cultural heritage. And, together with the environment and the groups of buildings, they expose a cultural process and the way that certain individuals occupy this site, its uses and how they consider the existing resources; how they build their history; how they create buildings and objects, knowledge, habits and customs (FONSECA, 2000) - which represents the *oustanding universal value* from the *historical, aesthetic, ethnological or anthropological point of view* (UNESCO, 2017).

The interference in the meaning and collective identity sense of the place and the site, may occur due to the dispute and the conflict of interests present in the process of production of the urban space, which, in the context of the cultural heritage, can be conditioned by mercantile economic relations in which the heritage and culture are seen as a strategic element of reproduction of capital (HARVEY, 2005).

This point of view can be underly in the public urban policies when they are conceived from an interurban and interregional level of competition between cities and based in a cultural production proposing interventions in the heritage. This phenomenon allows the suppression of some of its historical elements that add memories of past events to the site, defining simplified urban spaces of signs and meaning in the city.

In this process, a re-elaboration of urban heritage sites configurations in a local and regional level, by a changing social and economic conditions as a result of a larger participation in global markets of production and consumption, linked to a new cultural dimension, can constitutes a transformation of the concept of cultural heritage in an image of a site representation, following the idea of an image tha representates the site. In this context, the spread of this image can acquires a scale of social, public and mass communication, such as a cultural policy, adding another value and a new meaning to the asset.

Thus, a reconfiguration and a redesign of historical heritage as a tourism product is observed, and such interference in the urban space is made in order to transform and reorder the space for the tourism industry and for consumption, creating activities of use that can be recognized as independent of the site context and the local.



This interference acts by permeating the historical matter, involving and changing the cultural, social, economic and political issues of the present and the future, and intervene in the social and cultural attempt of translate the identity of a *thematized* (MUÑOZ, 2005) site. Thus, it becomes fundamental to understand and analyze what are the protection measures and the concept of safeguarding of these assets on a local, national, and international level when established by an international and multilateral heritage preservation organizations. And also, how these organizations concern - or not - about this phenomenon of *thematization* of the urban landscape and its memory.

Considering the cultural policies perspective, if the purpose of a site heritage protection only considers the existence of some works - architectural, monumental sculpture and painting, elements or structures - from the point view of history, art or science, separate or disconnected from other cultural references, as an anthropological, historical aesthetic and ethnological point of view, it cannot effectively allow the apprehension of the whole complexity of the territory. Thus, it is necessary to adopt new provisions to complement the site significance, considering its dynamic of use and searching to avoid a rupture in the heritage historical concept and its relation with the local collective, and its cultural landscape image.

Thus, by preserving the memories and significance of past events of the site together with its cultural references, its symbolic dimension could be able to amplify the cultural meaning of the person who experiences the city and the local. However, with the suppression of some cultural reference elements - material or immaterial - and with the absence of cultural preservation policies that consider the concept of a heritage linked to the territory, consequently part of its cultural expression can be reduced by the creation of new urban articulations, conforming an urban context devoid of meaning.

## 5 CONCLUSIONS

We verified that even with the lack of preservation policies support, the local manifestations - that represent the cultural references of the local - resist and express life today in the city of Belém, maintaining its dynamism - expressed by the maintained relationships with the property Ver-o-Peso, once they are part of their system of supply and distribution networks - even though there is no urban spatial architectural form that appropriately translates these manifestations able to structure a safeguard process. In the city of Belém, there is a centralization and concentration of urban preservation policies that expresses a contradiction in relation to the conservation of the cultural heritage in the city, since they do not consider the complexity of its cultural heritage system, with its peculiarities related to the Amazonian urban environment.

Therefore we conclude the way the elements of the Ver-o-Peso application process as a world heritage are connected is contradictory in relation to the cultural manifestations expressed by this cultural property, in which the material and immaterial heritage existing beyond those limits defined by IPHAN for the Ver-o-Peso complex heritage should also be covered and requires protection.

Our reflections on the Ver-o-Peso case also lead us to question the limitations imposed by the classification criteria established by UNESCO, and whether they would really be applicable in regions such as the Amazon, where the complexity of their urban environment, directly related to its natural context, distanced themselves from many of

the concepts of cultural properties previously classified in Brazil and in the world, and which are conceived on Western notions of preservation of property.

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# URBAN CONSERVATION POLICIES FOR THE TWENTIETH CENTURY CITY: RECOGNITION AND ANALYSIS OF HISTORICAL BUILDING HERITAGE IN PESCARA (ITALY)

**Claudio Varagnoli<sup>1</sup>, Stefano Cecamore<sup>2</sup>, Barbara Ferri<sup>3</sup>**

<sup>1</sup>Department of Architecture – “G. D’Annunzio” University of Chieti-Pescara, viale Pindaro, 65100 Pescara, Italia, e-mail: claudio.varagnoli@unich.it

<sup>2</sup>Department of Architecture – “G. D’Annunzio” University of Chieti-Pescara, viale Pindaro, 65100 Pescara, Italia, e-mail: stefanocecamore@gmail.it

<sup>3</sup> Department of Business Economics - “G. D’Annunzio” University of Chieti-Pescara, viale Pindaro, 65100 Pescara, Italia, e-mail: bferri@unich.it

## **ABSTRACT**

The approach of Historic Urban Landscape (UNESCO, 2011) in urban and management processes aims at integrating conservation and urban development. Starting from these considerations, we deal with the issue of preservation of the twentieth century urban contexts, proposing the case study of Pescara city (Italy). A recognition of the built cultural heritage is the prerequisite to address the actual perspectives and challenges for a proper and balanced urban heritage management. The paper documents the work of analysis and delimitation of historical areas related to the twentieth century residential neighborhoods, as historical-homogeneous urban contexts to be preserved and improved in the frame of current urban policies. In order to prevent further loss and highlight values, identity and critical issues that become evident in the historical context, we propose to support urban sustainable planning through periodic monitoring and evaluation tools of the economic, cultural and social effects induced by the enhancement of historical heritage.

Keywords: Urban conservation / Historic urban landscape (HUL) / Heritage values

## **1 INTRODUCTION**

In redefining competitive development policies, cities are focused on their attractiveness in terms of architectural quality, tourism, cultural facilities and services. In this perspective, the protection and enhancement of historic towns put the problem to define the full benefits due to heritage conservation. The concept of *Historic Urban Landscape* formalized in 2011 by the 36<sup>th</sup> Session of UNESCO’s General Conference refers to the need to consider a global approach to urban conservation, starting from the perception of the values of the historic city.

In this perspective, we deal with the question of the preservation of the twentieth century urban context through a reconnaissance work of the architectural heritage in Pescara (Italy), and we address the issue of the actual challenges for a proper a balanced urban heritage management. In particular, the paper documents the work of analysis and delimitation of historical districts around which the urban history of Pescara evolved. The aim of the study commissioned by the municipality of Pescara was to extend the preservation of specific places in which the conservation of

individual buildings acquires meanings to the urban scale: the historical, urban and architectural aspects of the Adriatic city (Pescara) have been investigated and described through a repertoire of boards.

The reading of the urban stratification process of Pescara and the examination of the existing literature about the history of the city have allowed us to delimit the historical contexts which are the basis of the actual urban structure. These urban areas, with particular reference to the twentieth century residential neighborhoods and hilly areas are seen as *areas of improvement* on which the future policies of urban renewal can focus on; in this way, our analysis has a significance for each listed building, but it also refers to the context, as we have tried to identify an initial case series of historical-homogeneous contexts of reference.

Finally, in the perspective of built heritage enhancement, it is stressed the need to interpret this analysis and recognition as a dynamic tool, to be monitored periodically in order to highlight *values, identity and critical issues* in the historic urban contexts and in their contemporary perception. Furthermore, in order to put heritage conservation in the wide frame of urban redevelopment, we propose the use of suitable evaluation tools of the complex impacts induced by the valorization process, so to share it with the community and policy makers, and implement an *integrated approach* to preservation.

## **2 URBAN REGENERATION ACCORDING TO THE HERITAGE URBAN LANDSCAPE APPROACH**

Recognising the historic city as resource for the future involves the need to integrate urban conservation into a broader urban development framework (Bandarin, van Oers, 2012). According to the recommendation on the Historic Urban Landscape approved by the Unesco in 2011, the tangible and intangible components of heritage are essential for an integrated urban development, considering conservation within the wider urban context and its social, economic and environmental aspects.

### **2.1 HISTORIC URBAN CONSERVATION IN PESCARA**

The recent loss of a relevant example of an industrial heritage in Pescara reveals the need to identify new parameters and safeguard strategies for an extremely heterogeneous heritage. A variety of factories and architectural buildings extends the perspectives of safeguard and urban conservation: their valorization is essential to the preservation of the historical memory of the town and to guide the urban development towards new logic of management for real estates, public areas and facilities, adequate to the present requests of the community.

Today, although the increasing global property crisis, Pescara pursues its obstinacy to cancel its past with demolitions and relevant restorations of the building fabric, modifying and damaging single units or entire architectural buildings belonging to the previous century and whose testimonial value is too often ignored or misunderstood.

The recognition of the historical and aesthetic qualities of the industrial archeology and of the 20th century buildings is complex, since they do not represent what is commonly understood as “monument”. However, they assume a main role in the interpretation of the identity places of the city, which is difficult to contextualize in the ordinary planning and where the usual control instruments are inadequate and seldom applicable.

The research, survey and cataloguing of the architectural heritage, undertaken after

the demolition of the Centrale del Latte (dairy producer), aim at redefining the protection of the historical urban fabric as a dynamic process to broaden the boundaries of the values to define the overall picture of urban resources essential to identify and determine efficient safeguard strategies (Varagnoli et al., 2011).

The identification of categories, periods and building typologies conducted on models related to the cataloguing made by Bartolini Salimbeni in 1993-94, today extended to the entire local territory, is aimed at the study of the relationship between construction and historical context, environmental and urban requiring a particular 'attention threshold' within the planning and building intervention.

The single building or aggregates apparently have little importance under the historical or aesthetic profile but they acquire relevant value as to the context and in relation to the loss of identity and urban quality that their substitution entails.

The urban areas identified through the survey of the historical and architectural heritage in Pescara, many of which were already prefigured by the general zoning plan in force, locate areas with existing catalogued buildings, context and set values, which suggest a fining of the protection tools, to overcome the prompt reasoning – that is, a building for a building – of the safeguard of historical and architectural heritage of the city.

It is a matter of identifying some urban areas as *historical centres* having a role of growth in the development of the city – *borgo del Santuario, centre of Castellammare* – or that assume the characteristic of unity – *rione Pineta, a housing complex belonging to the railway service* – or areas that have undertaken throughout time an identity nature comparing to different urban fabric – *borgo Marino sud* – or that have assumed the value of “solidified town”.

## 2.2 RESULTS AND DISCUSSION ON URBAN HERITAGE MANAGEMENT

In the perspective of preservation, the historical centres in Pescara should be seen as zones having a higher *attention threshold*. Actually, the acknowledgment of values of these specific urban areas can lead to the safeguard of buildings apparently less important from an architectural point of view, but historically tied to significant phases of the urban development. Particularly, the work of recognition of historical and architectural heritage highlighted the need for a frame of reference for safeguard interventions in the above-mentioned areas, taking special care of the following aspects: designation of rules for the preservation of the set of values and building contexts, with special regards for complex situations such as the borgo del Santuario surrounding the church Madonna dei Sette Dolori, which could be part of the recovering programmes; safeguard of the superficial finings, according to the type of facing, colours, frames, coating, etc.; safeguard of elements of urban quality, such as the urban decoration, vegetation, outdoor pavements, etc.

However, these rules should not to be considered as “obligations” added to the numerous responsibilities for owners and operators: the objective is to preserve the existing *values* to guide the overall urban quality, also in the peripheral and expanding areas.

Thus, it would be appropriate to supervise projects for new buildings or/and proposals for existing buildings by resorting to a specific Commission for architectural heritage, so to ensure a *balanced relationship* with the context - in terms of typologies and volumes, finings and colours, control of urban furnishings, etc. - and interventions of

*architectural quality* - in terms of relation between width of roads and height of buildings, use of compatible materials, or insertion of housing typologies.

The knowledge on the urban heritage values will avoid the distortion of the identity of historical contexts. Qualities of the architectural heritage of a site will be understood taking into account the surrounding natural environment, through a multidimensional and multi-attributed approach (see Fusco Girard, 1993).

Integrated urban conservation (Amsterdam Declaration, 1975) represents an essential actual requirement for a sustainable urban planning in order to safeguard ancient buildings in their *educational and symbolic value*, and to integrate architectural heritage in social life.

### **3 THE IMPORTANCE OF ECONOMIC AND SOCIAL IMPACTS OF PRESERVATION PRACTICES**

The management of urban cultural heritage begins from the understanding of the local and universal value it represents, as a synthesis of educational, symbolic, artistic, and identity values (Burra Charter, 1979; UNESCO, 2002).

Defining the *complexity of values* of historical and architectural resources is essential to understand what resources to protect and why, in order to identify appropriate *integrated strategies* in which all the relevant factors converge for urban development. The historical significance of individual buildings and contexts can be seen in the frame of local economy and social structure, defining a balanced urban management process involving integration of the protection goals within the objectives of economic, cultural and social development.

In order to understand the perspectives for rehabilitation and upgrading of historical buildings (built landscape, urban fabrics) in Pescara, we try to investigate how to consider conservation as tool for innovation and urban changes.

The Municipality is interested in costs and benefits associated with conservation/renewal/development projects and it will be required to decide between different alternatives of restoration or preservation of cultural resources. The problem is that each proposal for urban transformation should be analyzed considering both economic, cultural and social values, so to choose the most sustainable transformation and *provide a higher degree of coherence to the planning and management of urban processes* (see Bandarin and van Oers, 2012).

Cultural and social values refer to artistic and aesthetic values, educational values, collective values, taking into account that cultural resources are factors of integration in the discovery of traces of a common past; but heritage is also seen as positive label: cultural assets are increasingly considered as essential elements in urban development strategies, both in terms of protection and rehabilitation of historical centers, both in reference to valorization of traditions and ancient arts as tourist attraction factors (Fig. 1).

The estimation literature stressed the role of cultural heritage in urban regeneration strategies, defining a *total economic value* for these resources (see. Krutilla, 1967), a *value of social use* (Forte, 1977) and a *complex social value* (Fusco Girard, 1986 and 1993), defined through specific estimation procedures. In that framework, the *multicriteria analysis* are a useful tool for supporting decisions to intervene in urban planning and cultural preservation/enhancement, in order to deduce the most desirable

intervention proposals altogether. *Multicriteria analysis* should be used more widely to evaluate practical proposals for urban preservation, considering the *complexity* and *multidimensionality* of the relevant *values/objectives* (qualitative and quantitative) to all those involved in urban redevelopment process, and recognizing the different priorities attributable to these values and the alternatives of intervention to compare.



**Figure 1: Nouveau architecture in Pescara Porta Nuova, near the birthplace of the poet Gabriele D'Annunzio**

The problem for heritage decisions is about *what* and *how to conserve it, where to set priorities, and how to manage conflicting interests*, how to measure social values. For this reason approaches and tools are necessary to identify *cultural significance* of heritage - in terms of *importance of a site as determined by the aggregate of values attributed to it* (Randal Mason in *Assessing the Values of Cultural Heritage*, 2002).

To integrate different values in decision making process it is opportune a combination of methods. An interesting approach is the Community impact Assessment (CIA) where the (direct and indirect, social, environmental, economic) impacts of the *alternatives* are compared with respect to all sectors of the community involved (actual and potential users). The ranking of alternatives is carried out through an ordinal comparison, but the approach does not explain the costs and benefits in quantitative terms, believing that - in the strategic phase of the evaluation - it is sufficient to proceed to a simple recognition of cultural characteristics. The alternatives relate to investments to improve the historic areas of the city, encouraging the creation of socio-economic activities compatible with the conservation of architectural resources (Lichfield, in Fusco Girard 1993).

An important evaluation tool is also represented by the Heritage Impact Assessments (HIAs), whose principles could be extended to the generality of cases of preservation of historic buildings. The approach should be widely used by policy makers for better and transparent decisions related to changes on heritage preservation, taking into account the multivalence of heritage and the key aspects for heritage management (see *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*, Icomos, 2011).

In this perspectives, evaluative tools can opportunely provide guidance for an area where changes are promoted.



## 4 CONCLUSIONS

The assumption of the paper is the *multivalence* of heritage, as essential quality of buildings and urban contexts to be preserved also in the less ancient twentieth century cities.

The significant cultural value of historical urban areas is often opposed by the obsolescence and requirements for reconstruction or restoration transformations of no longer used buildings but representative of intangible cultural qualities.

The historical heritage survey work in Pescara has been an initial approach to the recognition of the place's significance, in terms of quantification and qualification of urban assets, necessary to define the *frame of cultural identity* for urban development (Carta, 2004).

An important proposition of the paper is about the need to use evaluative tools and approaches, such as the Community Impact Assessment and the Heritage Impact Assessment, in decision making processes *to integrate conservation and urban development into a unitary process*, considering *the dynamic nature of urban heritage* (Bandarin, van Oers, 2012).

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# IMAGING EVALUATION OF LOCAL TREATMENTS FOR FOXED PAPERS

Marta Matos<sup>1</sup>, Francisca Figueira<sup>2</sup>, Teresa Ferreira<sup>3</sup>

<sup>1</sup>Polytechnic Institute of Tomar (IPT), Quinta do Contador, Estrada da Serra, 2300-313 Tomar; HERCULES Laboratory, University of Évora, Largo Marquês de Marialva, 8 7000-809 Évora, Portugal.

<sup>2</sup>Laboratório José de Figueiredo, Direção Geral do Património Cultural, Rua das Janelas Verdes, 1249-018 Lisboa, Portugal, email: ffigueira@dgpc.pt

<sup>3</sup> HERCULES Laboratory, University of Évora, Largo Marquês de Marialva, 8 7000-809; Chemistry Department at the Science and Technology School, University of Évora, Rua Romão Ramalho, 59, 7000-671, Évora, Portugal.

## ABSTRACT

Foxing stains have been a sensitive problem to paper conservators. One of the most complicated decisions is whether to remove these foxing stains. The decision to bleach involves pondering on the aesthetic gain of the artwork's visibility, versus the somewhat deleterious effect on the ageing properties of its paper support. This study evaluates the effect of local application of three bleaching agents in three different paper sample batches. The agents used were hydrogen peroxide, sodium permanganate and sodium borohydride. So far, the bleaching agent that showed the best overall results for all the papers was hydrogen peroxide.

Keywords: Foxing; Bleaching / Paper conservation / Optical microscopy / Photography

## 1 INTRODUCTION

Foxing is usually described as random small, circular and irregular spot stains of reddish or yellowish brown tone on paper surface. The study and the reasoning behind the development of this type of discoloration, known as foxing, have been a constant theme for research and the results published throughout the 20<sup>th</sup> and 21<sup>st</sup> centuries. Since 2008 studies have been carried out on the occurrence of foxing stains at the national Portuguese conservation organism, Laboratório José de Figueiredo, in conjunction with Centro de Física Atómica and Laboratório HERCULES (Figueira *et al.*, 2009; Manso *et al.*, 2009; Nunes *et al.*, 2015; Relvas *et al.*, 2014,).

Bleaching in paper conservation has been amply discussed (Đurovič, 1993) but bleaching practice as a topic is scantily written about (Brückle, 2009). It has recently been revisited through research testings (Henniges and Potthast, 2009) and bleaching workshops (Figueira, 2011a; Potthast *et al.*, 2010). The decision to bleach involves pondering on the aesthetic gain of the artwork's visibility, versus the somewhat deleterious effect on the ageing properties of its paper support (Brückle 2009), although it has been reported that *a suitably chosen bleaching agent may raise the resistance against ageing by removing chromophores that may act as precursors of photo-oxidation or accelerate the acid hydrolytic decomposition of the glucosidic bond in cellulose* (Đurovič, 1993). This was confirmed after acceleration ageing tests of bleached samples containing different types of stains in a research project in 2010 (Figueira, 2011b). From this study three bleaching treatments were now chosen but applied differently, using local application on a suction table. The aim of the present



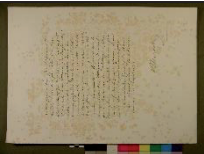
study is to seek the least intrusive but still efficient treatment methodology to deal with these, sometimes, very disfiguring stains on museum paper artworks. Batches of foxed paper samples from the 19<sup>th</sup> and the 20<sup>th</sup> centuries were submitted to three local bleaching procedures and were characterized by technical photography and optical microscopy before and after the treatments.

## 2 METHODS

### 2.1 PAPER SAMPLES' DESCRIPTION

Paper samples with foxing stains were selected from a 20<sup>th</sup> century book (outer cover (A) and title page (C)), and a 19<sup>th</sup> century printed manuscript (F) (Table 1).

**Table 1: Sample description**

Sample	Description	Photographic imaging
A	Outer cover of the 20 <sup>th</sup> century book	
C	Title page of the 20 <sup>th</sup> century book	
F	19 <sup>th</sup> century printed manuscript	

#### 2.1.1 Fibre identification

Fibres were defibrillated in a drop of distilled water under magnification and left to dry. They were then coloured with a few drops of Hertzberg solution and examined under a Cambridge Instruments Galen III microscope.

#### 2.1.2 Photographic imaging and optical microscopic observation

In order to evaluate colour and morphology of the foxing stains, photographic imaging and optical microscopy (OM) were used. Photographic register was obtained using a Nikon Coolpix P520 camera placed on a column stand. The photographic images were captured under different illuminations (reflected and transmitted light and UV radiation). The camera was set for macro focus and the images captured on automatic mode using the same focal distance. A UV Waldmann W portable lamp with two TL4 W/08 F4T5/BLB Philips lamps was used as a UV radiation source. To observe the samples surface, a Leica MZ6 microscope lens under a magnification of 25x was used. A Leica CLS x 100 light spot was used as the raking light source and the images were captured as indicated above, without zooming.

## 2.2 METHODOLOGY USED IN THE TREATMENTS

Three different treatment solutions referred in the literature (Baker, 1993; Burgess, 1988, 1990; Henniges and Potthast, 2009; Hofmann *et al.*, 1991; Malešič *et al.*, 2008.) were selected for this study. Two of the three bleaching solutions were oxidizing agents and the other a reducing agent. The treatments were numbered as indicated in Table 2 for all the paper batches, leaving number 1 as non-treated sample.

**Table 2: Treatment used in all batch of samples (A, C and F)**

Number of the sample	Treatment
14	Washing
2	Hydrogen Peroxide (H <sub>2</sub> O <sub>2</sub> )
3	Sodium Permanganate (NaMnO <sub>4</sub> )
4	Sodium Borohydride (NaBH <sub>4</sub> )

### 2.2.1 Washing, Neutralization and Alkalization

Bleaching treatments are always the last treatment resource. Before bleaching, the paper must be washed. If the stains persist as disfiguring, then bleaching may be considered. In this study all the samples were first rinsed in a water-alcohol bath (1:1). Then immersed in distilled water for 2 h, with water changes every 30 min and a final bath in a calcium hydroxide pH 8 solution for 30 min, according to the literature (Burgess, 1988; Hey, 1979; Hofmann *et al.*, 1991).

### 2.2.2 Bleaching

From the paper bleaching conservation literature (Baker, 1993; Burgess, 1990; Henniges and Potthast, 2009; Hofmann *et al.*, 1991), the bleaching solutions listed below were applied locally with a thin brush on the centre of the stains, on a suction table. For the more resistant stains, the solutions were applied during 30 min, while 15 min were sufficient for the lighter stains. Permanganate bleach was applied in two or three different timings (Table 3). After the bleaching and reducing procedures, all samples were submitted to an alkaline bath with calcium hydroxide in a pH 8 solution for 30 min, followed by resizing in an immersion bath of 0.5% methylhydroxietil cellulose (MH300p) for 30 min. The option for MH300p was based on the unpublished study of accelerated aging results on papers resized with gelatine and MH300p (Figueira, 2011).

### 2.2.3 Hydrogen Peroxide

Hydrogen peroxide was used at a 5% concentration in a solution adjusted to pH 9 with a drop of ammonia, as proposed in the literature (Burgess, 1988; Hofmann *et al.*, 1991). To eliminate possible bleaching haloes, a 0.9% hydrogen peroxide solution with ethanol (1:3) was applied in all the samples to reduce the risk of blistering (Hofmann *et al.*, 1991). The samples were then immersed in a 2% sodium thiosulfate solution for 30 min and to finalize, subjected to the same procedures as stated above.

## 2.2.4 Sodium Permanganate

Sodium permanganate was used at a 0.5% concentration in a solution with pH 8, as mentioned in the literature (Hofmann *et al.*, 1991). After a maximum of 30 s period, a 1% potassium metabisulfite solution with pH 5 was applied to stop the bleaching action. This procedure was used two or three times as indicated in Table 3. The samples were then subjected to the same procedures as stated in 2.2.2.

## 2.2.5 Sodium Borohydride

Sodium borohydride was used at a 1% concentration in a solution with a pH between 9 and 10, allowing the effervescence to stop before application (Henniges and Potthast, 2009). The samples were then subjected to the same procedures as stated in 2.2.2.

**Table 3: Bleaching procedures**

Treatment	Paper	Application
Hydrogen peroxide (H <sub>2</sub> O <sub>2</sub> )	A	30 min
	C	15 min
	F	30 min
Sodium permanganate (NaMnO <sub>4</sub> )	A	3 times
	C	2 times
	F	3 times
Sodium borohydride (NaBH <sub>4</sub> )	A	30 min
	C	15 min
	F	30 min

# 3 RESULTS

## 3.1 PAPER SAMPLES' CHARACTERIZATION

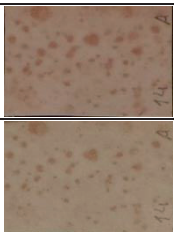
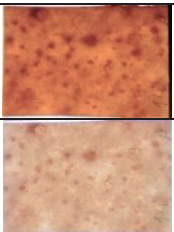
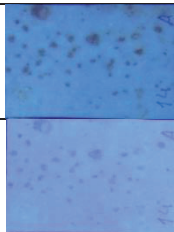
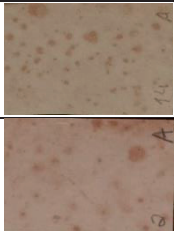
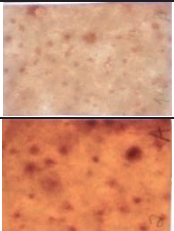
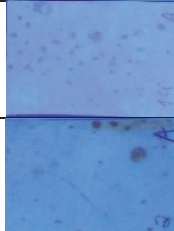
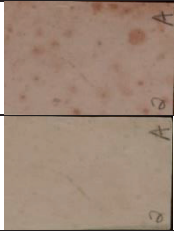
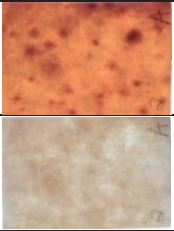
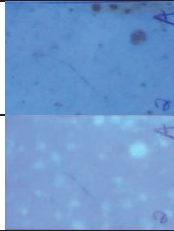
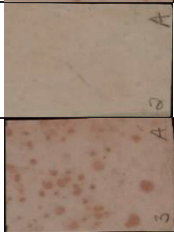
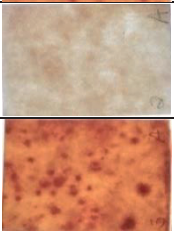
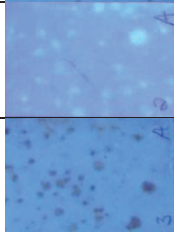
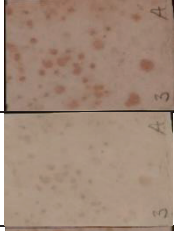
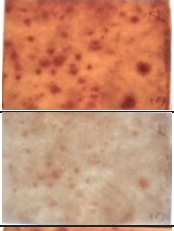
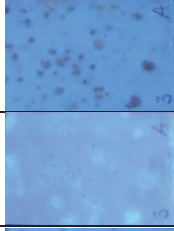
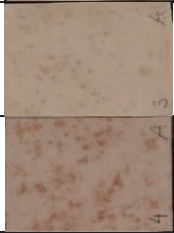
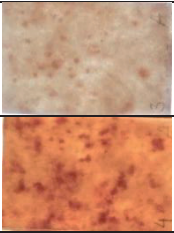
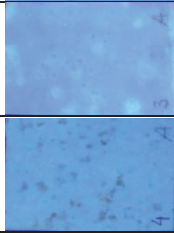
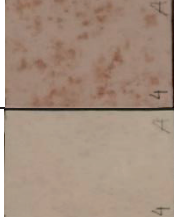
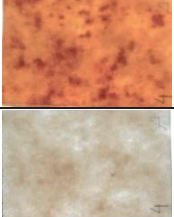
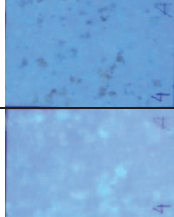
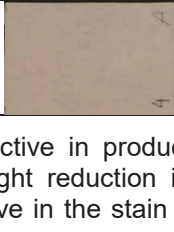
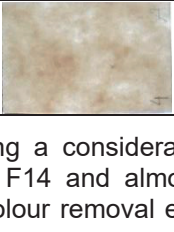
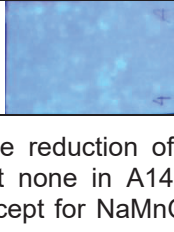
Sample A is essentially made of rag with some grass fibres. Sample C, contains chemically bleached softwood and esparto grass fibres. The printed manuscript, sample F, is made from rag fibres. The outer back book cover, denominated sample (A), is a thick wove paper (0.27 mm) of cream tone. It is translucent under transmitted light, showing an uneven distribution of fibres. It has multiple foxing stains of grey/brown tone, varying their dimension between small and very small, with irregular format, but well delimited. No fluorescence was observed under UV radiation. Foxing attributed to metal induced oxidation (*bull's eye*) seems not to fluoresce (Derow and Owen 1992). Some authors (Pedersoli and Ligterink, 2001) mention that when the discoloration has developed into dark brown stains, fluorescence can no longer be observed. Sample (C) is a medium/thin wove paper (0.15 mm) of cream tone. The surface is slightly smooth but not calendered and it is translucent with transmitted light, showing an uneven distribution of fibres. Foxing stains are formed by an agglomeration of minute dots and covers almost entirely the samples. The stains have an orange brown fox tone. Under UV radiation there seems to be two types of foxing: one that does not fluoresce and is seen as dark brown dots and the others that fluoresce a yellow orange tone. Florian and Manning attributed the yellow fluorescence to aromatic

amino acids, like tyrosine, tryptophan or phenylalanine, in the proteins of the fungal structures (Florian and Manning, 1999). Sample (F) is a medium thick (0.21 mm), white, wove paper with a calendered matte surface. Less translucent with transmitted light, showing a very uniform distribution of fibres. The foxing stains appear in an orange brown tone, with various dimensions, between small and medium, and irregular shape. These stains are more intense in the middle, attenuating in the edges. Under UV radiation the white fluorescence is uniform and stretches beyond the foxing stains.

### 3.2 DISCUSSION

Samples were analysed before and after the treatments under the same photographic imaging and optical microscopy conditions. All samples are named after a letter (Table 1) and a number (Table 2), corresponding the letter to the paper under study and the number to the treatment.


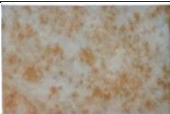
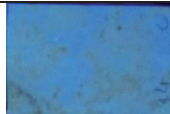

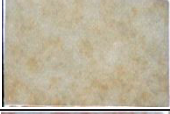
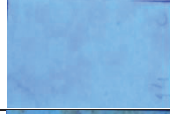



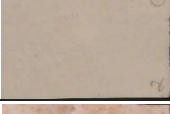
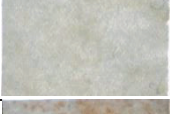
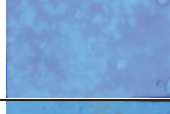
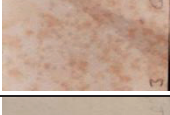

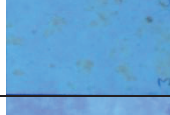
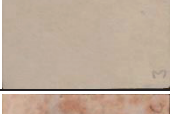
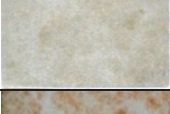


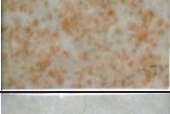




**Table 4: Photographic imaging before and after the treatments (Sample A)**

		Reflected	Transmitted	UV
Washing (A14)	Before			
	After			
Hydrogen Peroxide (A2)	Before			
	After			
Sodium Permanganate (A3)	Before			
	After			
Sodium Borohydride (A4)	Before			
	After			

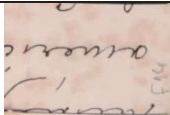
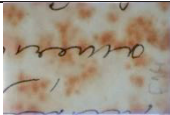
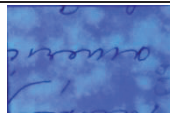
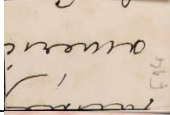
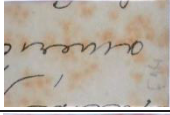
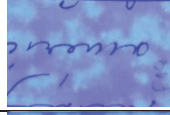
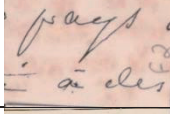
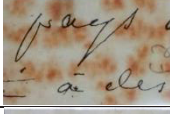
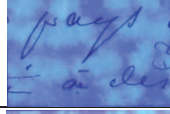
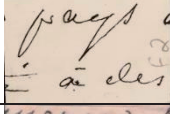
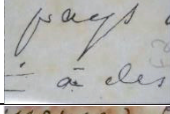
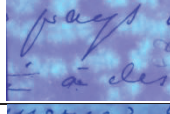
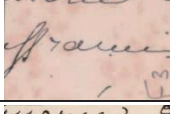
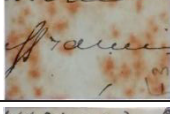
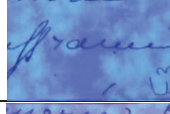
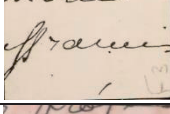
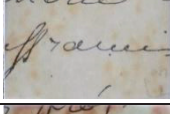
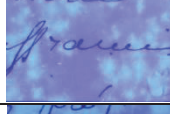
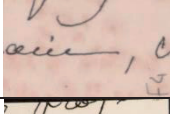
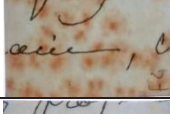
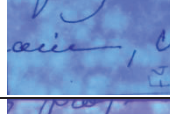
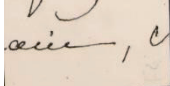
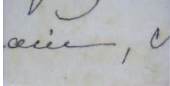
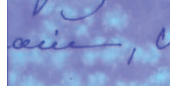
The washing treatment was effective in producing a considerable reduction of the foxing stains in sample C14, slight reduction in F14 and almost none in A14. All bleaching treatments were effective in the stain colour removal except for NaMnO<sub>4</sub> in

sample A3 (Table 4) where the colour diminished in intensity but is still visible in all images, and in sample F3 where the stains remained somewhat visible in transmitted light (Table 6). White fluorescence occurred in all the bleached samples A2 to A4 (Table 4) and C2 to C4 (Table 5) in the areas where the stains were previously localized. In samples C2 to C4 and C14 the initial orange/yellow fluorescence in C1 disappeared. In samples F (Table 6), the intense white fluorescence that is visible in F1 beyond the stained areas, diminished in intensity in all treated samples, F2 to F4 and F14, remaining visible only on the stains. Translucency and brightness were greatly increased in all washed and bleached samples A and C but were higher for samples treated with  $H_2O_2$  (A2 and C2) and  $NaBH_4$  (A4 and C4). In samples F no translucency or brightness alteration was visible between treated and non treated samples.  $NaMnO_4$  and  $NaBH_4$  treatments affected graphite annotations in samples C3 and C4 and F3 and F4 but not in samples A. The printing ink was altered in sample F4. Fiber surface disorder was not detectable under OM 25x magnification in samples A and C. Although all F samples present some surface fibre disorder, sample F4 evidenced greater alteration.

**Table 5: Photographic imaging before and after the treatments (Sample C)**

		Reflected	Transmitted	UV
Washing (C14)	Before			
	After			
Hydrogen Peroxide (C2)	Before			
	After			
Sodium Permanganate (C3)	Before			
	After			
Sodium Borohydride (C4)	Before			
	After			

**Table 6: Photographic imaging before and after the treatments (Sample F)**

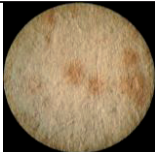

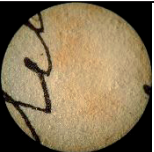

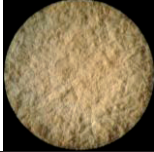
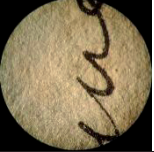




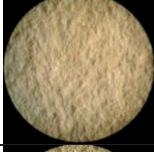


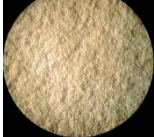

		Reflected	Transmitted	UV
Washing (F14)	Before			
	After			
Hydrogen Peroxide (F2)	Before			
	After			
Sodium Permanganate (F3)	Before			
	After			
Sodium Borohydride (F4)	Before			
	After			

The gain in fluorescence in the bleached samples A and C could possibly be explained if an initial oxidation process (Boruvka, 2008) had been triggered by the oxidative bleaches, but it also occurs with the reducing bleach. In the same line of thought Pedersoli suggests *that the fluorescent species is a product of hydrolytic and/or oxidative reactions of cellulose, which invariably take place in the course of degradation* (Pedersoli and Ligterink, 2001). Some authors have reported that if washing is not complete in a NaBH<sub>4</sub> bleaching process, borate residues may remain and increase fluorescence under UV light (Burgess, Reyden and Keyes 1994) but again this would not explain the fluorescence on the other treated samples. The diminished white and orange fluorescent bodies in the treated samples F and C could be attributed to a loss of fungal activity through the dilute calcium hydroxide washing treatment that preceded the bleaching steps. Calcium hydroxide treatments have been found to inhibit and kill fungal activity (Valentin 1986). The gain in translucency with all treatments may be attributed to the difference in the refractive index due to the removal of deposited dust particles (Bartl *et al.*, 2016) or of chain-scission hydrolytic



degradation products during the dilute  $\text{Ca}(\text{OH})_2$  washing procedure (Bogaard and Whitmore, 2001). The fading of oil-based printing ink media, which occurred in F4 has been reported previously (Baker, 1993). However the fading of the graphite marks in samples C (C3 and C4) and more intensively in samples F (F3 and F4) has not been reported in conservation literature nor the reasoning behind the fact that the same media (graphite and printing ink) were not affected in samples A (A3 and A4) when treated by the same bleaching agents. Could it be that the sizing in sample A was not affected by the  $\text{NaMnO}_4$  and  $\text{NaBH}_4$  bleaches?  $\text{NaBH}_4$  has been reported to *change sizings or coatings to be water-soluble* (Burgess, Reyden and Keyes 1994). OM images of all samples are presented on Table 7.

**Table 7: Surface observation through OM imaging using 25 x magnification**

Treatments	Samples		
	A	C	F
Non-treated			
Washing			
Hydrogen peroxide			
Sodium permanganate			
Sodium borohydride			

#### 4 CONCLUSIONS

So far, the optical results show that  $\text{H}_2\text{O}_2$  was the most efficient bleaching treatment in the removal of stains and did not affect the sizing medium and consequently the graphite marks were not altered. The fading of the graphite marks in samples C (C3 and C4) and more intensively in samples F (F3 and F4) has not been reported in conservation literature nor the reasoning behind the fact that the same media (graphite) was not affected in samples A (A3 and A4) when treated by the same bleaching agents. We propose that the gelatin sizing was slightly affected by  $\text{NaMnO}_4$  and more strongly affected by  $\text{NaBH}_4$ .  $\text{NaBH}_4$  showed equal efficiency in the removal of

stains but was the most problematic on surface disorder and sizing alterations, and it is not to be used on printing inks. NaMnO<sub>4</sub> was the least efficient bleaching agent for sample A color stain removal and affected slightly the gelatin sizing but was the one that altered the least the papers' tone and translucency when compared to the reference sample. The decision to bleach requires much forethought and consideration. It is not a procedure which should be lightly undertaken. The present study is a contribution for the decision-making of the heritage stakeholders.

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# THE *CAMELA* DWELLING – THE IMMATERIALITY OF THE MATTER

Teresa Sampayo<sup>1</sup>, Inês Oliveira<sup>2</sup>, Paulina Faria<sup>3</sup>

<sup>1</sup> Palmela County, Museum of the County of Palmela, 2954-001 Palmela, Portugal, e-mail: sampayoteresa@gmail.com

<sup>2</sup> NOVA School of Science and Technology, Dep. Civil Engineering, 2829-516 Caparica, Portugal, e-mail: ic.oliveira@campus.fct.unl.pt

<sup>3</sup> CERIS and NOVA University of Lisbon, NOVA School of Science and Technology, Dep. Civil Engineering, 2829-516 Caparica, Portugal, e-mail: paulina.faria@fct.unl.pt

## ABSTRACT

Adobe construction is very common in Portugal. Pinhal Novo parish is estimated to have more than 200 dwellings made of adobe masonry, all built in the early 20th century. Most of them are now in ruins, but some still remain in use. Through the years people have been making some refurbishment to improve their living conditions and comfort. Some interventions contributed to increase the durability of the dwellings. This study intends to present the *Caramela*'s culture, how it came about in this particular region and its dwellings characteristics addressing the building technology, materials used, built elements and structure composition. It started with the work developed by the Museum of Palmela County and a study performed in 2008 by an architect, it has been updated this current year (2017) and is mainly based on oral sources and in situ survey.

Keywords: Oral source / Immaterial heritage / Dwelling / Masonry / Adobe

## 1 INTRODUCTION

A wall results from a combination of materials. The types of materials differ from region to region; the building techniques adapt to the available materials and the know-how of each time period. But ultimately a wall is a functional structure that shelters and/or divides an area. Is it possible, from these wall structures, to rescue another dimension of history?

Starting on the work developed by the Museum of the County of Palmela (from now on designated as Museum) it will be demonstrated that, although matter is visible and touchable, it should include and integrate another dimension to be complete. This dimension is an intangible cultural heritage.

## 2 INTANGIBLE CULTURAL HERITAGE AND ORAL SOURCES DATA-BASE

The «intangible cultural heritage», according to the Convention for the Safeguarding of the Intangible Cultural Heritage means «the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artifacts and cultural spaces associated there with – these communities, groups and, in some cases, individuals

recognize them as part of their cultural heritage. This intangible cultural heritage, passed on from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity» (UNESCO, 2003).

Portugal rectified this convention in 2008. The “Divisão do Património Imóvel, Móvel e Imaterial do Departamento dos Bens Culturais da Direção Geral do Património Cultural” has the mission to develop and perform the Portuguese cultural policy, promoting their study, safeguard and dissemination. Nevertheless, their existence and safeguard depends almost exclusively from the communities, which detain that heritage. That is why the Museum started the Oral Sources Archive, in 2003. The research that is performed on different themes include, whenever possible, gathering of oral sources by interviews. The selection of interviewees depends on obvious requirements: coherence and clarity of ideas, capacity to talk, regular memory processes, participation in the events. It is a goal to obtain information concerning the life of each interviewee – starting with questions of a late past, retreating to previous generations (name, original birth place and parents’ occupation), childhood memories, professional life, etc. – so that it is possible, after gathering a considerable number of interviews with different people, on the same theme, to draw a realistic scenario of a past time period.

But there are discordant opinions about the role of oral history. Pierre Bourdieu, a known French sociologist, condemned the appeal of individual memory to define the portrait of a society. In his opinion, the course of life results from a combination of abstractions and random events, non linear chronologically and, therefore, completely distinct from History. An artificial meaningless creation (Bourdieu, 1986).

The Museum, being aware of the singularity of oral sources, considers their absence in a contemporary research a dramatic silence in History. The event report by the voice of who lived that event is an important source, even though crucial, for the knowledge and understanding of facts. Not only because of the content but also by the way of expression. The oral sources gathering technique not only collect data from words but also from gesture, facial expression, silences.

“(…) we had six brothers and we all slept together in a small kind of bed (*tarimba*). The room does not, well, because I was the youngest I had a difference of age from the oldest of eighteen or nineteen years and the oldest got married and left. If they were to stay four, they were staying three. But it was a small rough wooden bed made up of a dais in the floor with some blankets on the carpet and we slept over some blankets covered with others. (...) The dwelling had in a winery and there we had the bed. And my sister was the one that was sleeping in a small room, on the side of my father. But there was a partition wall. There were very small rooms only with space for the bed and a chair, or something similar to place the lamp on” (Joaquim Cavaleiro, 72 years old, interview performed in 2003).

The present approach is in agreement with Paziani (2010) interpreting individuals and specific groups while anonymous people but characters of History. Each action implicates a consequence and it is by the conjunction of this set of actions, of path traced individually, that History materializes.

### **3 CAMELA CULTURE**

Framed in a research project using oral sources, the Museum was motivated to look to

the earth dwellings spread in the rural area of Palmela county. The aim was to know and understand the use of the term *Caramelos* by the population of Pinhal Novo parish – one of the four parishes of the county. Although it is a territory characterized by a permanent entry of people from different regions of Portugal, in chronologically equivalent human mobility flows, this term appeared as a figure of powder and union; as the main bastion of local identity. It designates the symbolic process of social, cultural and politic construction and re-construction, strategically designed and carried out by the local actors. Today it is understood that its use creates and disseminates a collective conscience of the territory; it expresses and congregates a set of narratives and practices of the community of Pinhal Novo about themselves and their relation with others.

Originally the term referred to groups of men, women and children that came from the Central Northern coastline region, seasonally for periods of about nine months to work in big farms in the Pinhal Novo region. From *Caramelos* “to come and go” they turn in to *Caramelos* “to stay”, in a spontaneous colonization of the territory that welcomed them. Here and there they built small dwellings with adobe masonry walls that document the settlement process.

So, it was the search to understand the meaning of the term, and the memories associated to it, that lead to the *Caramela*'s dwellings typology. The collected memories draw a portrait of day to day life, distribution of working tasks by the different members of the family, the neighborhood, the gastronomy, etc. And everything led to the form of appropriation of the domestic space.

“The popular dwelling is one of the most meaningful and relevant aspects of landscape humanization, in which, on their big diversity of types, appear, with popular evidence, numerous fundamental constraints – geographical, economic, social, historical and cultural – from respective areas and human groups that built and inhabited in” (Oliveira and Galhano, 1998, p. 13).

The nowadays called *Caramela*'s dwellings are a testimony, by their similar characteristics, a collective cultural process of adaptation and land appropriation. In a territory that expands beyond the border of the county of Palmela, the dwellings point out in the landscape. Some are in total ruin, others alone, very few still in use and even less trying to fulfill actual comfort requirements. But while remaining in the landscape those walls enclosure histories of those who inhabited them, as examples of complementary between built heritage and immaterial heritage.

This research work gave way to two exhibitions which had as a motto the architectural dimension of this settlement process. A “pedagogical briefcase” [W1] was also created, inevitably exploring the earthen-based regional construction, which contains some examples of the Worldwide Built Heritage of UNESCO. Later on a protocol established between the Museum and Foundation Childhood Occupation Centre (COI) gave birth the Pedagogical *Caramela* Farm which has, among other valences, the recreation of a *Caramela* dwelling [W2]. Free visits to this farm of scholar groups are included in the annual pedagogical program of the educative Service of the Museum.

In the context of research and articulated with the creation of a small think tank on cultural heritage of the county, an architecture student, friend of the Museum, helped to understand this architecture. He voluntarily performed the first attempt of location data survey in 2008 (Fig. 1). About 200 *Caramela*'s dwellings were identified. The research gave some answers that allowed to understand the settlement process in the territory that gave way to build these dwellings but not about their future.

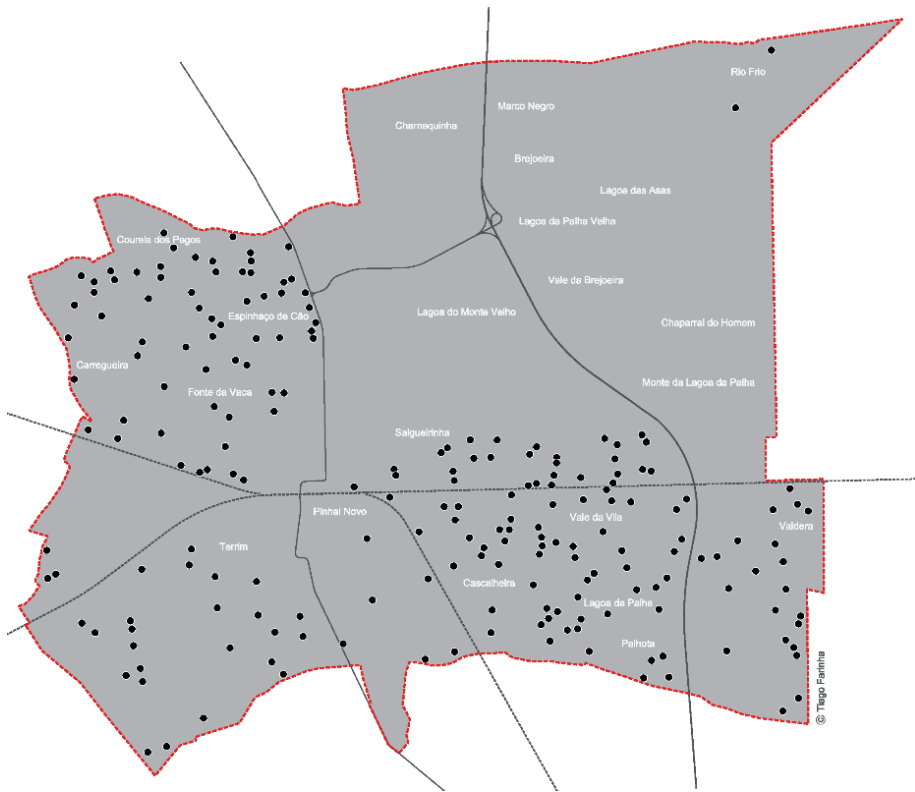


Figure 1: Map from 2008 with *Caramela's* dwellings located in Pinhal Novo, Palmela, Portugal (unpublish survey of Tiago Farinha)

## 4 ONGOING RESEARCH

### 4.1 FRAMEWORK

As presented in the previous session, it is therefore urgent to understand the meaning and the value of these dwellings, to discuss what can be done and, hopefully, how to provide owners the conditions to preserve *Caramela's* dwellings. Therefore, the NOVA School of Science and Technology of the NOVA University of Lisbon contacted Palmela's county and are trying to contribute to the research, for now on the parish of Pinhal Novo. This contribution has also the support of the DB-Heritage project financed by the Portuguese Foundation for Science and Technology, that is gathering a database of materials used in old buildings with the aim of contributing for efficient and compatible interventions on the built heritage, and Centro da Terra Association that is trying to map the location and specificities of earthen-based constructions all over Portugal.

Palmela is a large county located in a central area between two rivers; Tejo in the North and Sado in the South. Pinhal Novo is a rural small town located in the Lisbon's and Setubal's suburbs taking 5444,3 Ha of area from a total of 46512,01 Ha of Palmela's county [W3].

Historically the *Caramela* dwelling emerges at the beginning of the 20<sup>th</sup> century. As said in the previous section, it resulted from migrant movements between the central-northern coastal region of Portugal and some regions of Palmela country for the harvest period. Therefore, people started to build some temporary dwellings where to live during that period. As time went by, they settled and started to build long-stay dwellings: the *Caramela* dwelling. In the will of José Maria dos Santos, owner of Rio Frio homestead, there were guidance for transfer of plots of land for families who wanted to settle (Cabrita, 1999). The objective was to assure available manpower in the territory. After some years, a huge region was populated by *Caramelos* as never before. A similar situation occurred in the *Comporta* region, in the South side of the river Sado, with people that were coming for the rice harvest. But as it is a sandy region and therefore the type of dwellings that were built applied different materials – in that case, wood and vegetal fibres (Bruno and Faria, 2010).

In the central-Nord coastal region (the region from where the *Caramela*'s population were coming) the *Gandaresa* dwelling was popular (Fernandes and Tavares, 2016; Fortuna, 1997). Both were regions with clayish soils, lack of stone and financial resources and many sources of water. Therefore, it was standard to build with earth because it was available and cheap. So adobe masonry was the predominant type of construction in the begging of the 20<sup>th</sup> century.

## 4.2 DEPLOYMENT OF CAMELA DWELLING IN THE TERRITORY

Focusing the study in the Pinhal Novo region, these dwellings were very isolated and rural. Most of them were located in agricultural fields without neighbours. There are two different plots of land types where the dwellings are located. In the East of the parish, the land is geometrical distributed due to a process of breakdown of land. In the West of the parish, the plots of land are very disorganized and the roads are very curvy. In both cases, the dwellings have not a standard of implantation. Some are placed very next to the roads; others are very far. The only rule that seems to apply in this matter was that the dwellings were built in the highest point of the plot of land to avoid flood in the rainy season.

From the survey performed in 2008, in 2017 many of the 200 dwellings that were identified have been sadly neglected over the years and nowadays some of them have turned into ruins. Most of the dwellings are now being used as warehouses or animal shelters to support agriculture activities.

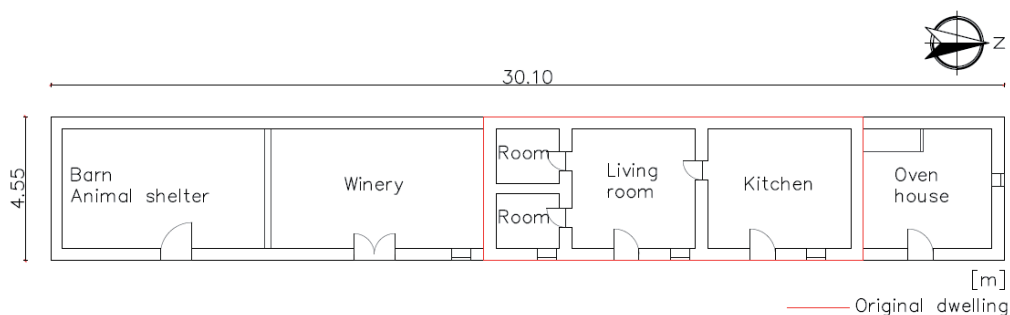
The dwelling's owners consider these constructions too poor, and it is usual to find other dwellings that are bigger and more recently built next to them. Those new dwellings are built with fired bricks and cement-based materials. Earth and wood are no longer used to build.

## 4.3 THE CAMELA DWELLING – TYPOLOGY, BUILDING TECHNOLOGY AND MATERIALS

### 4.3.1 Typology

Generally, these dwellings were built with the main facade facing East. The original plan of the dwellings was rectangular, with the kitchen on the right side facing North, bedrooms on the left facing South and in centre the living room. Usually, there were two exterior doors, one in the kitchen and the other in the living room.





**Figure 2: Caramela dwelling original house plan located in Vale da Vila, Pinhal Novo, Palmela, Portugal (2017)**

The kitchen had a large chimney for cooking and heat. The living room was a decorative space for visits. There were two, very small rooms, where all the family slept. The main room, facing the facade, was for the parents, and the other was for the children, mainly for the girls (Fig. 2). When the family was too big, boys had to sleep in exterior spaces (as reported in the oral survey, presented in section 3). These kind of dwellings were associated with complementary constructions: the winery, the barn, the animal shelter and the oven house. Sometimes, when there were many children, boys could not sleep in the main dwelling due to lack of space. In that case they stayed near the animals because it was warmer.

#### 4.3.2 Building technology and materials

As it was said before, it was common to build with materials directly from the land. There were some specialists for the dwellings construction process, always men who lived in the neighborhood, who knew all the techniques and proper materials. A dwelling was built by a taskmaster, with the help of the family members that were going to inhabit it.

The dwelling had a dynamic plan: it would grow in the following years with annex divisions and other structures, essential for the rural economy, as the pit, the tank, the animal shelter.

The taskmaster searched for a proper clayish earth and used it to produce the adobe blocks. The process was very simple. The main materials were coarse sand and clay is hearth. They were mixed together on the field by foot.

It was common to add some natural fibers coming from agricultural activities because it could improve thermal behavior of the dwellings. After the mixture was ready, it was compressed into a wood mold, typically called “adobeira” or “adobela” in Portuguese.

“An *adobela* was used. Furthermore, the clay was stacked up. It was stacked up with water. And was mixed with our feet. Treading with our feet, two to three people, four treading the clay mix, even children, well, that were seven or eight years old that should have been in school, were doing that task”. (Joaquim Cavaleiro, 72 years old, interview performed in 2003)

The next step was letting the blocks dry in open field exposed to the sun during 2 or 3 days allowing water to evaporate. During that time the dimensions of the blocks started decreasing (clay-based materials shrunk) so it was possible to remove the molds and the manufactory process was complete.

The typical adobe blocks from this region are parallelepiped and approximately 0.50 m x 0.30 m x 0.13m. All over of the world, this kind of construction was only made during the hot season. The Construction time period was variable, because it depended on the number of people who helped building the dwelling.

#### 4.3.3 Built elements and dwelling composition

The foundation of the dwelling was done with excavation throughout future walls. Afterwards it was filled with different materials. Some sources indicated adobe blocks, like the one for the walls, and another mentioned it as filled with some stones and fresh adobe mix for layering it.

Originally the dwellings had adobe masonry exterior walls with 32cm thick (masonry made with the second dimension of the blocks), layered with an earth-based mortar made with the same clay used for the adobe production. Outdoors the walls were rendered with an air lime-based mortar and also lime washed (painted with an air lime milk).

Indoors the dwellings had two partition walls made of adobe masonry, but with a smaller thickness (the blocks were layered with their smallest dimension). They could be plastered with an earth-based mortar and finished with a lime wash. Alternatively, these partition walls were built with wattle and daub (a light wooden structure with small section wood or cane, filled and coated with an earth-based mortar and lime washed). The lime wash was generally white, as Fig. 3 shows, but the one of the kitchen and the oven house was pigmented with ocre.



**Figure 3: *Caramela* dwelling located in Lagoa da Palha, Pinhal Novo, Palmela, Portugal (2017)**

The original floor was only compacted earth.

The roof had a wooden structure, generally with two roof sides with ceramic roof tiles originally without any ceiling lining. That structure was supported by a wooden beam on top of the adobe walls. In more recent times a false lining of MDF or other materials were used in the bedrooms and the living room, to assign more comfort, but generally not in the kitchen.

Windows had small size, with wood frames and interior wooden covers. The exterior doors were also of wood. Indoors there were two different scenarios. Poor houses had no doors; curtains were used to separate compartments. Afterwards curtains could be replaced by small wooden indoor doors. On top of the doors and windows it was normal to use wooden beams to support the adobe masonry.

Masonry buttresses were sometimes used outdoors, but almost all the dwellings had horizontal iron stabilizing rods from the façade wall to the opposite wall confining them (Fig. 4). Some sources believe that masonry buttresses were used not only for seismic confinement but also for aesthetic reasons, because the dwellings looked stronger.



**Figure 4:** *Caramela* dwelling detail of iron stabilising rods in Vale da Vila, Pinhal Novo, Palmela, Portugal (2017)

## 5 DISCUSSION AND CONCLUSIONS

This survey focused on the characterization of *Caramela*'s dwellings, a very typical construction in this region. The construction materials and techniques used were very simple and very similar to the *Gandaresa* dwelling due to a very strait connection between the central-Nord coast of the country's culture and the origin of *caramela*'s culture. The big difference between them is the surroundings. *Caramela*'s dwellings are isolated rural houses. The main materials were coarse sand and clay. The plaster and render were based on air lime and sand and the walls were lime washed. Inside, all the structures were made by wood. Most of the houses were white with a blue or red bar in the main facade.

Now, in 2017, and after almost a decade from an initial survey, the *Caramela*'s dwellings remain on the landscape. But a great number aren't in use, left to abandonment and other problems on the renders and roofs occur, letting water accessing the inside of the building and especially their adobe walls. The owners, generally grandchildren of the initial ones, do not seem to be interested in the dwellings itself but more on the land where the dwellings are built so they can sell it for future constructions.

What should and can be done? If nothing is done these important witnesses of a time in history and a stage of territory development will disappear. Should the involvement of other agents that can contribute to draw a plan of intervention and can contribute to the preservation of these dwellings be encouraged? And should that plan only admit conservation and repair? Or should it include rehabilitation, in the sense of upstanding the requirement standards that the dwellings can fulfill and allow new uses?

To answer these questions and to preserve these constructions a study is being done.

The main goal is to collect as much information from the elder generations as possible on the typical process of construction and the original materials used. Most of them still remember some details about this kind of construction. As soon as the typical process, the composition and mechanical behavior of this kind of construction is known, the more possible it would be to understand the best step to take to preserve this important heritage.

Concomitantly, the work around the oral sources will allow us to collect information about the inhabitants, the social dynamics, the local traditions, the know-how and the knowledge that, being only transmitted orally from generation to generation (and we are talking about a community that did not have the opportunity to go to school), otherwise it would have been lost throughout time. And it is that narrative composition that we want to build, from the events that the memory kept (the oblivion is an essential part of the memory, for which the process of the unspeakable must be integrated in the process of reflection), and in its relation with the place and the matter. History has to be made, precisely, from the interpretation of this relation between the material and non-material heritage, which cohabit.

There is still no answer for many of the questions but the fact is that these dwellings are built based on earth walls, seems to be an advantage nowadays, due to ecological and environmental concerns of society.

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# TRADITIONAL ADOBE BUILDINGS IN THE ALTO RIBATEJO REGION

Jorge Mascarenhas<sup>1</sup>, Lurdes Belgas<sup>2</sup>

<sup>1</sup> Instituto Politécnico de Tomar (IPT), Dr. Aurélio Ribeiro3, 2300-313- Tomar, Portugal, email: j Mascarenhas@ipt.pt

<sup>2</sup> Instituto Politécnico de Tomar (IPT), Av. Dr. Aurélio Ribeiro3, 2300-313- Tomar, Portugal, email: lbelgas@ipt.pt

## ABSTRACT

Earth was the first material moulded by man to build houses, its use dates back to many millennia. Half the world's population currently lives in earth buildings made with different technologies. The most widely used earth construction techniques are *rammed earth*, *adobe* and *tabique*.

The *rammed earth* and *adobe* techniques produce resistant walls. Whereas *rammed earth* forms a monolithic structure made of tamped earth between sidewalls on site, the *adobe* technique consists in small-block masonry made of earth in timber moulds and dried in the sun. The *tabique* technique is used to build non-resistant partition walls of earth that is applied on wood strips, also used in front walls.

*Adobe* is one of the oldest building materials, being considered one of the precursors of clay brick. It was used in various parts of the world, especially in hot, dry regions, traditional constructions and buildings of heritage value in many cities. In Portugal, this type of construction is disseminated across various regions of the country, having a significant presence in many historic centres. The 19th-century industrial revolution increased the supply of industrialised materials, which led to earth techniques being gradually abandoned.

Recently, with the rise of environmental and sustainability concerns, the use of more sustainable construction processes is being considered. Earth construction, including *adobe*, meets current sustainability requirements. An understanding of these building techniques is also useful to rehabilitate existing earth structures.

This paper describes the peculiarities of traditional *adobe* constructions in the Alto Ribatejo region. The choice of this theme is justified by the fact that there is a vast heritage in this region, both rural and urban, that is well-adapted to climatic and territorial conditions. In order to preserve this interesting heritage, it is therefore crucial to better understand these construction techniques.

Keywords: Adobe /Earth Structures / Renovation

## 1 INTRODUCTION

Earth as a building material has been used for millennia, being adopted in various buildings, from mere dwellings to military and religious buildings. Currently more than half of the world's population lives in earth homes.

Descriptions of building techniques using clay and straw date back to Bible times. In ancient Egypt and Mesopotamia, most buildings were made of *adobe* - sun-dried clay

bricks. Some of the oldest cities in the world are in Iran, many of them made of earth and still inhabited to this day. The Crusades, between the 11th and 13th centuries, contributed to disseminate this building technique across Europe and the European maritime expansion allowed its dissemination through the world (PACHECO et al. 2009).

In Portugal, there are some examples of earth constructions of which some are in adobe (FERNANDES et al. 2016). Many need conservation works and consequently an understanding of these age-old sustainable techniques.

The term *adobe* originates from the Arabic word "thobe", meaning sun-dried brick, which suggests that this technique has expanded more across the Iberian Peninsula during the Muslim occupation. Adobe bricks require little energy for production as they are not fired like conventional bricks. They are often obtained *in situ* and are moulded by hand or using manual presses.

Adobe bricks are also thermal and acoustic insulators and therefore contribute to the reduction of energy consumption. Due to its high capillarity, clay is an excellent humidity regulator what causes adobe constructions to create healthy environments (MINKE, 2006).

However, until recently, earth constructions were associated with construction technology of the past, using local and natural resources.

At present there is a paradigm shift, with earth constructions re-emerging all over the globe. In Portugal, especially in the South, we are witnessing the construction of single-family earth dwellings and tourist complexes.

This paper describes examples of adobe constructions in the Alto Ribatejo region providing construction details.

## 2 TRADICIONAL ADOBE BUILDINGS

Today there is an interest in raw earth techniques due to the existence of a huge earth building heritage. In mainland Portugal, earth buildings can be found almost all over with an important presence in historic centres. The techniques vary from region to region. The *tabique* technique is essentially used in interior partitions, but also often in upper-floor external walls of buildings in the Douro region, Trás-os-Montes and Beiras, in particular Vila Real, Bragança, Viseu, Guarda, Castelo Branco and Santarém (PINTO et al. 2010). *Rammed earth*, much used in exterior walls, can be found all over the country, especially in the South, in the Alentejo and the Algarve, particularly in Évora, Beja and Faro. The areas of the country that have the greater number of traditional adobe buildings is Aveiro, Leiria, Santarém and the Coimbra coastline (RODRIGUES et al. 2006). Ribatejo also has traditional adobe constructions.

Geographically the Ribatejo comprises three natural regions: *lezíria*, *bairro* and *charneca*. The *lezíria* comprises the floodplain area of river Tagus and adjacent lands, and includes alluvial soils of excellent quality, where vineyards predominate. In these fertile lands, cereal, melon and tomato plantations can also be found, as well as excellent pastures grazed by cattle and horses. The *bairro* lies on the right bank of the Tagus (Northern Ribatejo), with low steep-sided hills of sandstone, limestone and clay formations, with shades varying from whitish to brownish, red and orange. In these clay soils are shrub and tree crops, particularly olive trees that coexist with vine, wheat and maize crops. The *charneca* extends from the left bank of the river Tagus to the

Alentejo (South of Ribatejo). The area has sandy soils, including vast areas of cork oak forest, as well as eucalyptus and pine trees. However, cereals and vines can also be found, as well as rice in more irrigated areas.

The buildings studied are located in the *bairro* of the Alto Ribatejo, which is rich in traditional architecture, including earth constructions. Similar to the traditional brick masonry construction, adobe can be used both in interior and exterior walls as well as in the extension of existing constructions.

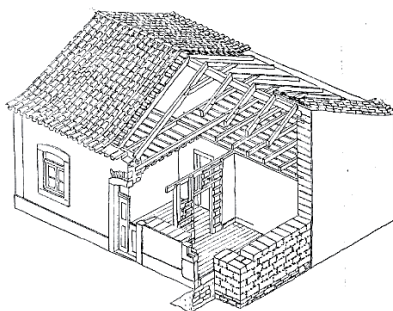
Adobe was not only used in small buildings such as country houses, storages, dividing walls or wells. There are several examples of adobe masonry structures with historical and heritage value, namely religious, military and industrial.

Many of these buildings have been doomed to abandonment due to population migration to the coast, are brought to ruin or destruction because of the increase of the tax burden, in particular the property tax, and also because of the loss of territorial integrity due to abundant and indiscriminate use of eucalyptus plantation. On the other hand, living in earth buildings is considered non-prestigious, which leads many of these inhabitants to leave them and erect new concrete buildings beside the old ones. These houses are not usually repaired, and an important heritage has already been lost.

However, there are reasons to build and renovate the region's adobe buildings as they are a unique heritage that may provide important know-how that will help build new, more sustainable adobe constructions or to renovate existing ones.

## 2.1 THE SYSTEM USED TO BUID ADOBE STRUCTURES

In order to provide a detailed description of adobe structures of the Alto Ribatejo region, on-site visits have been carried out to collect specific data. We opted for the buildings that were accessible from the interior and that were falling into ruin in order to be able to examine the construction details. The figure below shows a sectional view of the structural frame of these dwellings.



**Figure 1: Traditional dwelling of the Alto Ribatejo region**

Simple but intelligent solutions making use of the scarce resources available are often found in adobe constructions.

### 2.1.1 Building Typology

The design of earth buildings is strongly influenced by their exposure to earthquakes and bad weather (CORREIA, 2006). The main purpose was to prevent the walls from collapsing opting for a regular structure with a dynamic behaviour for better seismic



performance Construction plans were regular and symmetrical avoiding long unbraced sections or continuous, asymmetrical items (Minke, 2006).

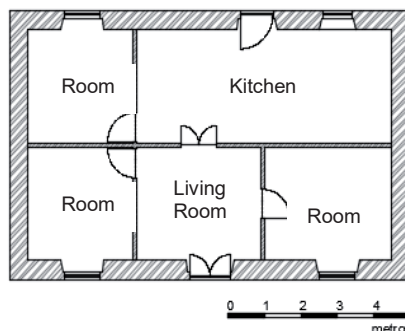
In this region traditional typologies are very simple, most of them are of rectangular plan of about 10x7.5 meters, differing in room layout and arrangement. The kitchen is usually located in the back of the house and is the largest room as this is where the majority of domestic activities took place. This location has to do with fire safety and the fact that the back of the house was reserved for activities relating to cattle breeding and agricultural work.

In rural settings dwellings have larger areas and are similar in what regards the number of rooms and plan dimensions. The main entrance of the house leads to the living room and the interior spaces are arranged therefrom. In urban areas building arrangement is more limited because construction areas are smaller. Later, for sanitary and public health reasons, sanitary equipment was installed, more often than not, outside existing buildings. Most houses have only one floor.



**Figure 2: Traditional building typology: a) located in urban areas, b) located in rural areas**

The figure below shows the arrangement of rooms in rural houses.



**Figure 3: Traditional building typologies**

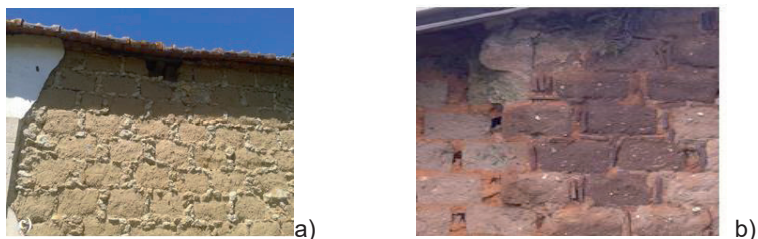
Rural houses are typically isolated which gives the landscape a unique character. In urban areas they were usually aligned along the roads.

### 2.1.2 Foundations

In the region under study building foundations are usually made of ordinary stone masonry of variable depth depending on soil type (DELGADO et al. 2007). Their width may exceed that of the walls and extend up to 60 cm above the ground. Then walls were erected so as to prevent adobe bricks from coming into contact with soil moisture.

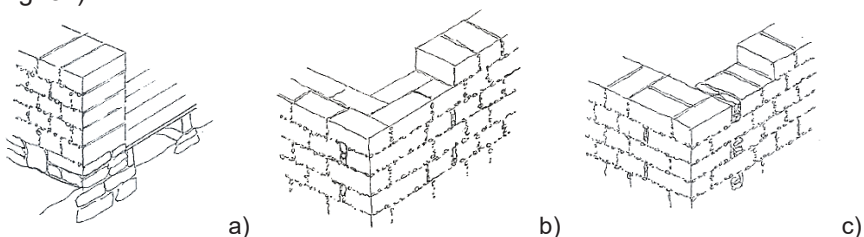
### 2.1.3 Exterior walls

The masonry has different widths depending on the size of adobe bricks and specially the way they are arranged: half-brick, one-brick, one-and-a-half-brick or two-brick (MASCARENHAS, 2015). Here adobe bricks of different sizes can be found but the most widely used are the ones measuring  $15 \times 20 \times 46 \text{ cm}^3$  and  $13 \times 23 \times 46 \text{ cm}^3$ . Half-brick is also used to brace the walls in the corner areas. Many of the bricks found have the peculiarity of having cut off edges, in order to facilitate the introduction of small stones (Fig. 4a) or tile fragments (Fig. 4b) into the joints with the purpose of improving plaster adhesion. Adobe bricks can be made of varying soil types, some of them include natural fibres or a binder such as lime used mainly in sandy, fragile soils.



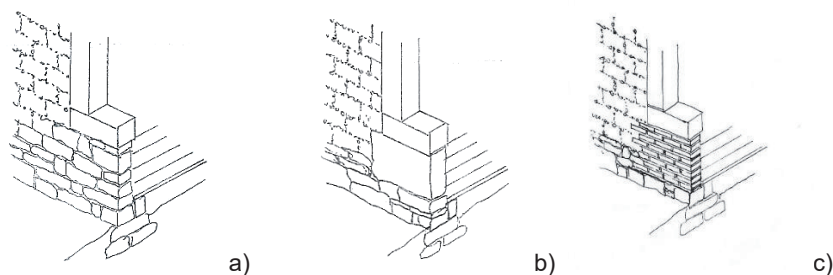
**Figure 4: Examples of adobe walls of the Alto Ribatejo region**

Adobe walls do not follow a particular pattern. The first row is laid directly on the foundation (Fig. 5a) and the walls are built like brick walls. Adobe bricks were laid so as to brace the walls (Fig. 5b) and applied with a mortar mixture made of sand and earth. There was a concern to align the bricks on the corners to ensure that the wall panels were braced. This adjustment was made by using a narrower brick, smaller stones (Fig. 5c) or a stone block.



**Figure 5: Construction of adobe walls**

In the area below the windows the walls were thinner than in the other areas. There were several alternative solutions to build this panel: small-size masonry (Fig. 6a); a stone of appropriate size (Fig. 6b) or a massive brick masonry structure (Fig. 6c).



**Figure 6: Construction of the wall panel underneath the doorway**

### 2.1.4 Interior walls

The interior walls are thinner than the exterior walls. They usually are half-timbered, consisting of a gridded wooden structure filled with earth, straw, stone or ceramic tiles. The ends of the horizontal wood beams are embedded in the adobe walls (Fig. 7a). They can also be made of *taipa de fasquio*, massive brick (Fig. 7b) or even adobe. They were then plastered with a mixture of earth, lime and sand. These walls are not designed to confer resistance but to divide rooms, brace exterior walls and sometimes support the roof structure; hence their simple building foundation.

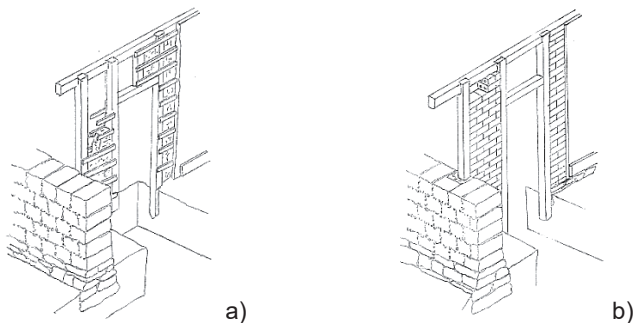


Figure 7: Types of interior walls

### 2.1.5 Doorways

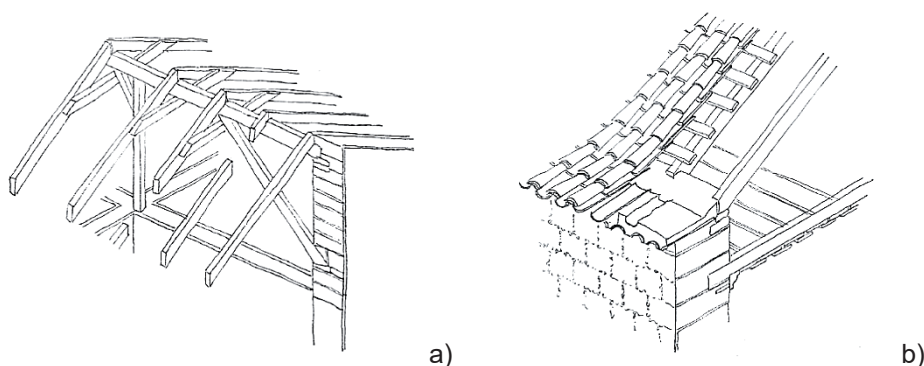
In earth constructions, doorways are of small size to minimize heat transfers. Sun protection consisted in installing wood shutters inside the windows that were shut in summer to keep the house cool. Window frames, doorways, lintels, doorframes and doorsteps are made of stone slabs. The stone blocks that make up the lintels rest directly on the doorstep. These stone trims are essential, since metallic bolts were used to secure the wooden frame in place that could not be placed on the adobes, which otherwise would crumble.

Lintels rested directly on doorways and were aligned to the inner face. In areas where there was no stone or for economic reasons the lintels were made of solid brick laid with lime mortar. Typically, in the inner side of lintels was a timber rafter which projected beyond the doorway by 30 cm on both sides. To minimise the effect of the load of adobe bricks on the lintel stone, a spare brick arch was built or the eave was placed immediately above the lintel. On the inside of the buildings, the underside of the lintels was finished with a wooden lath plastered with a mixture of lime and sand to even the surface and then lime was applied as external finish coat. The frames of guillotine or two-leaf windows were made of wood and were fixed to the masonry of doorways. The windows and doors were placed later to allow ventilation for a faster drying.

### 2.1.6 Roof covering

The majority of the roofs are gable roofs with a simple and light wooden structure composed by a ridge board connecting two gable walls, the rest of the roof structure being laid directly onto the walls (Fig. 8a). The trusses are braced to prevent any outward movement. The rafters are supported by stone elements not to crush the adobe bricks. The roof is of ceramic tiles laid onto the timber lining boards. There is an eave that projects beyond the walls by 40 cm to protect them from rainwater dripping (Fig. 8b). Adobe walls can be visible or else be coated with two layers of sand-lime-

and- earth mortar. The walls may also be whitewashed directly over the coating with the purpose of protecting it from weather damage, particularly water damage.



**Figure 8: Example of the type of covering found**

### 2.1.2 Ceillings and floors

The floors of the houses studied are earthen floors coated with a frame of timber girders and beams laid onto brickwork dowels creating a ventilated crawl space over which the timber floor was laid. This type of flooring is mostly found in bedrooms and living rooms. Kitchen floors are unpaved (hard-pack floors) or covered with stone slabs. The structure of the ceilings is also made of timber, with elements of smaller section and therefore lighter. The timber boards placed under this structure, i.e. the lining, had reduced thickness (10 mm). They had mortise-and-tenon joints or the boards were arranged so as to form grooves and tongues. The recessed board is called tongue, and the protruding board is called groove, thus creating two levels. Only the main rooms had ceilings. In the kitchen there was no lining, the cover tiles were visible - unlined tile roof. Here was a fireplace for cooking, smoking food and heating the building. The fireplace consisted of a diagonal timber frame structure that supported the smoke canopy and that rested on one or two wooden columns, depending on whether the fireplace was in the corner of the room or not. The smoke canopy is of considerable size.



**Figure 8: Traditional kitchen and types of smoke canopy**

## 3 CONCLUSIONS

Earth construction was used at all times and all over the world. Earth is a natural, ecological, recyclable, cheap material and therefore a building material with enormous

potential. The earth structures that reached our times are an evidence of the durability of this type of construction.

Earth construction in the Alto Ribatejo region form an important part of the existing adobe structures in Portugal.

We believe that the study in this paper will provide a better understanding of these structures and will give a further contribution to their preservation and renovation.

The study of age-old building techniques contributes to improve traditional building techniques insofar it provides a better awareness of the methods and techniques to be used in the conservation and restoration of earth buildings, a vulnerable heritage that is unprotected and at risk.

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# TANGIBLE HERITAGE OF A BUILDING-STONE MINING IN THE VISTULA RIVER VALLEY AT THE KAZIMIERZ DOLNY VICINITY, POLAND

Alicja Bobrowska<sup>1</sup>, Joanna Pinińska<sup>1</sup>

<sup>1</sup> University of Warsaw, Faculty of Geology, Department of Geomechanics, Warsaw, Poland; e-mail: a.bobrowska@uw.edu.pl; joanna.pininska@uw.edu.pl

## ABSTRACT

The gorge-like narrowing breakthrough of the middle run of river Vistula valley, cutting across the Cretaceous and Paleogene carbonate rocks, comprises long historical tradition of a stone industry and an unusual example of co-existence of mining, building industry and rock workings. The roots of today's industries in the region reach as far back as Medieval times and even farther back - the Palaeolithic. The availability of carbonate rocks of the Upper Cretaceous and Neogene had made significant impact on building industry. The heavy defense fortresses, sacral monumental buildings, and magnificent residential and common buildings are typically made of white opoka\* blocks all over the Kazimierz Dolny and its vicinity area. The mechanical properties of opoka, as shown further in the text, make stonemasonry difficult, so the medieval mining and construction craftsmanship deserve special appreciation today. Historical traces of mining activity, the old buildings with walls of "white stone" in the vicinity of Kazimierz Dolny should be formally protected as complete, integrated cultural heritage of the centuries long economic and cultural development of the area

Keywords: Opoka / Kazimierz Dolny / Cultural heritage

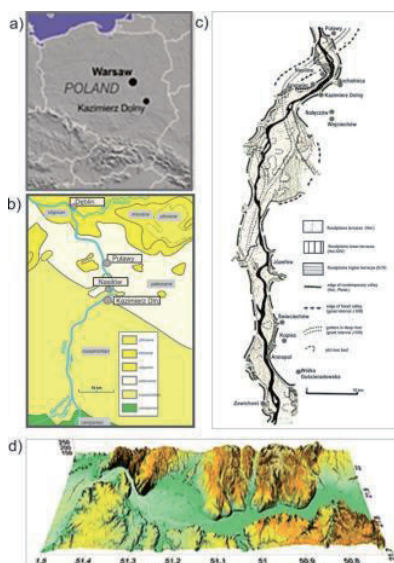
## 1 INTRODUCTION

A stone-mining, a very remarkably tracks of our cultural heritage integrates, both, the rock's mystic richness and technological advances in the long history of a man interaction with nature.

It is in the river Vistula valley where imprints of ancient integrity of a stone mining and building architecture remain interlocked with an old city of today. The gorge-like narrowing breakthrough of the middle run of river Vistula valley, cutting across the Cretaceous and Paleogene carbonate rocks, comprises long historical tradition of a stone mining (Fig.1). Due to favorable geological conditions, and a specific landscape sculpture, the area was subjected to development of original mining stone-art, homesteads, and the Medieval and Renaissance architecture. The oldest traces of mining activity and settlements reach as far back as the Paleolithic era. At that time the Cretaceous flint stones were rare sought materials. Extractable from weathered cherty limestones were used for manufacturing sharp tools and weapons. Remnants of booming mine activities are now obliterated, encounterable mostly in blurred traces, but many mine pits are scattered on the east side of the river Vistula in vicinities of what now are the Świeciechów, Annapol, and Gościeradow Wolka settlements [Balcer 1975, Libera & Zakościelna 2005].

Cherts embedded in a carbonate rock mass were removable by surface scratch or

mined up from cavities in open-casts. Remnants of processed flints were discovered at the geological profile base of the river Vistula terrace in Pulawy by Krisztafowicz in 1896 and described as a “loessial layer with flint tools, charcoal and mammals’ bones” [Pożaryska, Pożaryski, 1951].



**Fig. 1: a) Location map; b) Geological Map, derived from the Detail Geological Map of Poland 1:50 000; c) Known sites of a stone mining activity at the river Vistula Valley [Maruszczak 1972 after Kondracki 2001] the widely recognized trading route from the South to the Baltic Sea d) Shaded digital elevation model (DEM) of the Central Vistula valley.**

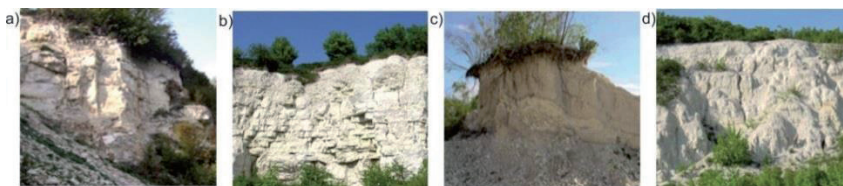
Archaeologic finding in the Pulawy site and the similar site from the village Kopiec, with artefacts of Palaeolithic culture, are recorded in the Register of Monuments and affirm the commonness of settlements with flint manufactures along the Vistula water way.

Since about the sixth century, the common Cretaceous and Palaeogene limestones, marly limestones, limy sandstones, chalk and mostly, the “white rock” opoka\* [Neuendorf et al. 2005], became sought for a stone-masonry.

The opoka quarrying flourished in XVI-th and XVII-th centuries providing elementary material for building fortresses, churches, and the right bank riverside granaries. Fire proof, light, long-lasting and easy to handle, the “white stone” was a very good substitute of a cheap, common timber.

The origin of opoka stone is very special. The compacted sediments in the South East extent of the Cretaceous/Palaeogene shallow sea running diagonally across flattened expands of Alpine platforms of what now is the North-central Europe, were elevated throughout Neogene and subjected to slow weathering and subsequent erosion.

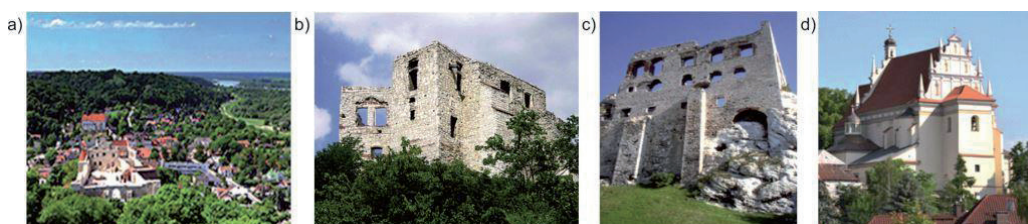
As a result of leaching, a very porous, skeleton of rock remained. Easily processed and shaped, serves for centuries as a main decorative and construction material in regional building. Along with the quarrying, various associated infrastructural undertakings – lime burning in kilns, producing clay pottery in manufactures, manufacturing barrels in cooperage, and many other craft workshops were developing, followed up with cultural creativity. The best preserved traces of the old economic growth related to stone mining activity are visible within the vicinity of the Kazimierz Dolny town. Steep, rocky walls embanking the Vistula river gorge were suitable for locating defensive strongholds. Cut down by numerous erosion indentations, the valley walls facilitated access to fresh rock, making the quarrying easy (Fig. 2).



**Fig. 2: The white stone outcropping in steep embankments of the river Vistula near: a) the Kazimierz Dolny town; b) the Anopol town; c & d) the Piotrawin town**

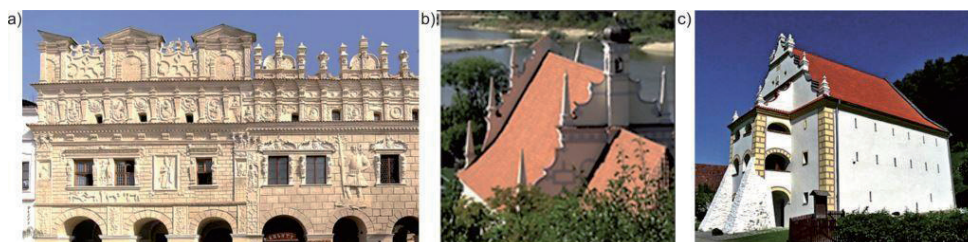
## 2 IMPORTANCE OF THE „WHITE STONE” MINING FOR REGIONAL ECONOMIC GROWTH AND CULTURAL DEVELOPMENT

The Kazimierz Dolny with its quarries, and associated monumental infrastructures, became a cultural and architectural center of regional growth already in the XIII-th century. The mining art of the opoka-stone quarrying, laid foundation for the then great development of architecture and flourishing economy of the region. Easily accessible opoka was commonly mined at the turn of the XIII-th and XVI-th centuries, when the Kazimierz Tower was erected (Fig. 3). In a fifth decade of the XIV-th century the king Kazimierz the Great initiated construction of the castle (Fig. 3b). At that time also the parish church, funded by his son, Władysław Łokietek, was built in 1325 (Fig. 3.c). Monumental defensive and sacral buildings with powerful protective buttresses were located on steep hills. Residential houses were settled on the flats of river terraces and at foothills [Sobotkowska K., Sobotkowski Z. 1995; Szczepański M. 1997].



**Fig. 3: a) The Kazimierz Dolny town, a general view from the castle tower; b & c) Castle ruins; d) Parish church**

Development boom in the Kazimierz area was favorable for arts and crafts. Stone walls of residence houses were decorated with sophisticated ornament and figures. Even huge granaries at riverbanks, loaded with corn waiting for further transportation towards the marine harbor in Gdansk, became qualified high art objects, admirable up today (Fig. 4).



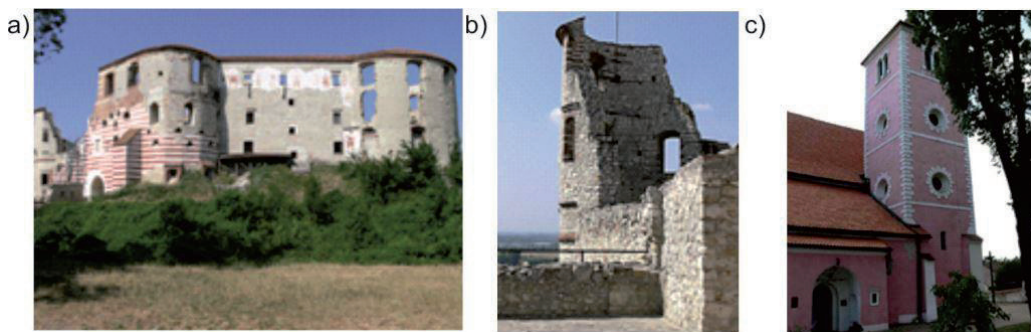
**Fig. 4: a) Ornamented façades with St. Nicholas and St. Christopher, the Przybyla brothers' town houses (ca.1615 ); b) The roof finial of the parish church of St. John the Baptist (1586-1589); c) Richly decorated granary façade at the Vistula's waterway**

The Medieval “white stone” mining imprinted its mark onto the both, architecture and urbanization, because the building stones were quarried just next to township buildings. As a relics of Medieval mining in the Kazimierz Dolny town, remain the terrace promenade of the today's Pulawska street, and numerous subsurface mining chambers in a densely urbanized section of town. With time these post-mining chambers were utilized as naturally conditioned cellars, food stores, or prison dungeons [Pawłowski 2005]. On the opposite side of the river Vistula, in the Janowiec town there are similar, abandoned opoka quarries at the foot of a steep escarpment. The quarried stone was used in XV-th century for building of a vastly fortified castle



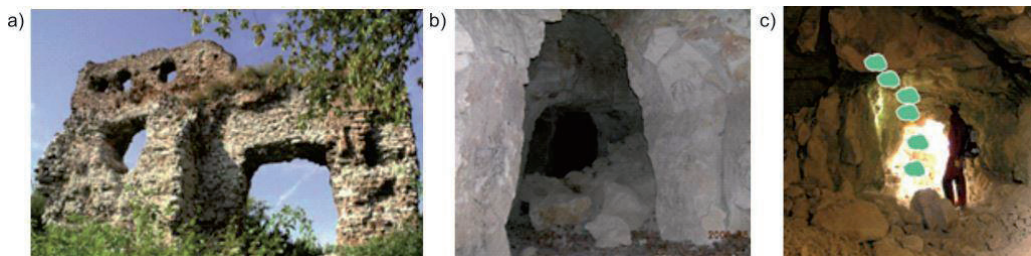
(Fig. 5d). Also, a well preserved till now, a defensive moat, which separates the fortress from the surrounding plateau, has remained probably after removal of building stone around the castle construction ground. During multiple expansions and war destructions, following rebuilding with modifications, the Castle's aristocratic owners repeatedly changed, with Firlej, Tarlo, and Lubomirski families, to name the few. And now (Fig. 5 b & c), the castle is being rebuilt from ruins after two centuries of vandalizing due to a lack of means and maintenances, and plundering.

Many outcrops of opoka in the vicinity of the Janowiec castle provided construction material for settlements in a small town at the foot of castle, where residential houses, churches and synagogue were being built (Fig. 5d). Alike in Kazimierz Dolny, most of the abandoned quarries in the Janowiec landscape faded due to intense weathering and a dense recent plant cover.



**Fig. 5: The Janowiec town: a& b) Castle ruins, now (2015) in restoration; c) XV-th century church in the settlement at the foot of a castle**

The Medieval construction works based on a well selected material. In a quest of the best kind of material miners had to mine underground. Similarly, in the neighboring villages Bochoznica and Pulawy, the subsurface mining was continued down by method of chambering in a quest for layers of more solid hard rock. In that way the sequence of softer, top rocks were left intake. The subsurface mining was serving building construction of a XIV-th century castle for the Firley family in Bochoznica, which remained inhabited till the end of XVIII-th century. Now, only rubble and ruins remain on the surface and the rich labyrinth of mined underground tunnels and chambers awaits for possible sponsors of revalorizing (Fig. 6). Despite of the passage of time and a continual devastation, there is still detectable a miners skill in their stabilizing of a rock-massif. The run of corridors, shapes of chambers and a pattern of security pillars reflect the medieval high professional craftsmanship and a work discipline.



**Fig. 6: a) Portion of the castle walls in Bochoznica; b & c) Abandoned mine shafts and corridors; unprotected are dangerous for uncontrolled tourist traffic**

Alike these in Bochoznica, are chambers and subsurface corridors in in the Pulawy town. Since the XVII-th century they served miners in providing building stone for erection of the neighboring Czartoryski's palace. Luckily, the palace resisted all of the following wars and changes in political attitudes towards the aristocratic heritages. At the beginning, the subsurface mining openings were incorporated by princess Isabel Czartoryska into court's park as integral elements of a local reality in 1792. One of the mine chambers was adapted to the manor's chapel.

During the World War-Two (WW-2), underground mine facilities served as air raid shelters [Pawłowski 2005]. After a post-war-two adaptation in the second half of the XX-th century, the former mining shafts and chambers in the Pulawy city, were opened for tourists as the „Groty puławskie” (the „Pulavian caves”) in their essentially unchanged form (Fig. 7).



**Fig. 7: The „Groty puławskie”: a) an entrance into „cave”; b) subsurface corridors; c) underground chapel; d) tourist information board [Photo M. Kurowska, 2009]**

In a nearby right bank of the river Bystra valley, on the South off of the densely urbanized part of what now is the Naleczow Spa there are discovered remnants of the opencast and subsurface quarrying of the Palaeogene siliceous-limestone variety complex of fine grained rock called “gauze” which, alike opoka was porous and strong, so that used in building constructions alternately with stronger and heavier red bricks.



**Fig. 8: Walls of alternate mosaics of a appearance of building façades, which were, brick and opoka-like siliceous limestone and still are white in the Janowiec and from Naleczow; The XVI-th century Arian Kazimierz Dolny towns, while in the Naleczow Tower in Wojciechow village (renovated in 1907)**

The subsurface mining in vicinity of Naleczow was abandoned probably in the second half of the XIX-th (Gazda L. & Gazda B., 2005). The remaining network of complicated underground chambers and corridors served as safe hide for successive generations of Polish guerillas. Surface quarrying continued occasionally until the WW-2, and then was abandoned, too. A lack of demand for building stone because of miserable economic situation in the whole region, and development of modern building technologies resulted in total degradation of a stone mining and stone masonry. After the centuries lasting prosperity of local building stone passed by, there were, however, attempts of their restoration. After the WW2 an architect- engineer K. Sicinski has undertaken a successful attempt of recovering importance of local building material in a postwar plans of general restoration of the Kazimierz Dolny town. His success is

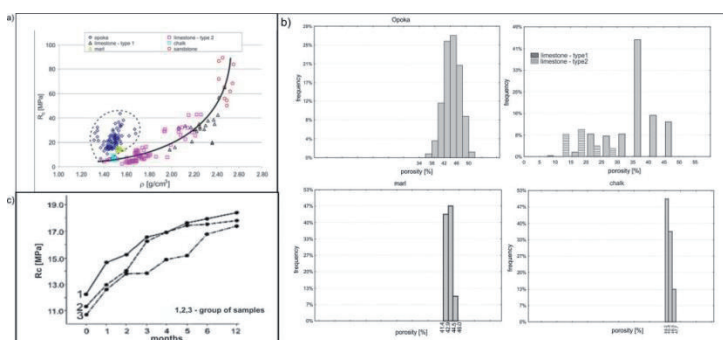
marked by common white stone elevations in and around the town in surrounding villages, but also in private residences as far away as Warszawa, the capital city of Poland, some 150 km away.

Towards the turn of XX-th century, the opoka masonry was, however, almost totally rejected by industrial building construction. Thus, only local, private investor decide to invest in the “white-stone” buildings. A chance for reinstating a white-stone mining industry on the occasion of extensive river regulation works failed at the river Vistula in 1978. The opoka prized for its rare mechanical properties as a building stone, appeared totally unfit for hydraulic engineering. Unfortunately for the regional stone-mining tradition, the final blow came from the environment protection side. Many actions in order to protecting landscape by eliminating certain forms of human living initiatives resulted in a legal decisions prohibiting any form of mining within the impact distance from the protected areas. As a side effect of the cease of mining, the intensive devastation begun of the unprotected anymore heritage of human exceptional facilities in particular, and a common neglect focused on the whole noble mining profession in general.

### **3 OUTLINE OF GEOMECHANICAL PROPERTIES OF THE “WHITE STONE”**

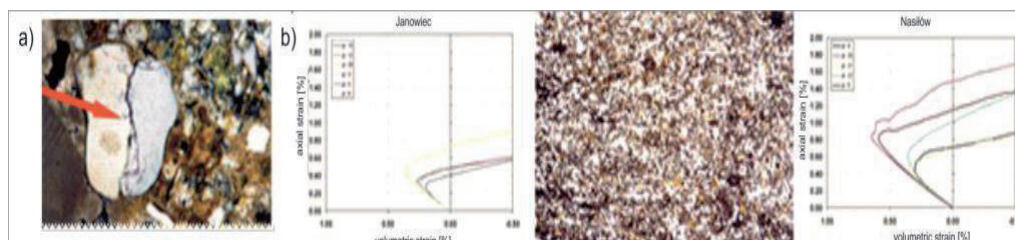
The local carbonate deposits of building stones, namely calcareous sandstones, limestones and varieties of opoka had variable mechanical and technical properties. In the Medieval architecture of the breakthrough segment of the river Vistula, the weak opoka, however, dominates despite of its softness. That is rising a question of what are the peculiar features which gave the opoka from the Kazimierz Dolny and its vicinity such long lasting usefulness in building? The other question regards the longevity of “white-stone” building constructions, which apart of war destructions, remain in good condition until now. Many aspects of a „white-stone” peculiarity are explained in recent results of geomechanical testing. The low compressive strength ( $R_c$ ) of opoka, rather below 30 MPa, is compensated in engineering practice by its low specific weight due to high porosity exceeding 35 % [Pinińska, Dziedzic, 2006, 2007]. That makes opoka perfect insulating material, exceeding such property of a solid brick many fold. And its low specific weight makes easier transportation from a quarry to a building site. The perfect natural forming of blocks fracturing make the opoka material easy to handle during masonry works. What is more, the quarried opoka is gaining strength essentially with time, because of its siliceous cementation jelly crystallizes slowly upgrading rock’s compressive strength by about 30% [Fortunat, 1965, Łozińska-Stepień, 1965]. All these basic characteristic properties positively distinguish opoka from the other local building stones (Fig. 9).

The other special properties of opoka relate to its fabric. In the all opoka types which are micritic packstone of random structure a content of siliceous debris is high and may, locally reach almost 90 % (Neuendorf et al. 2005), because of abundance of organic silica, the remnants of diatomite, radiolaria and sponge spicules.



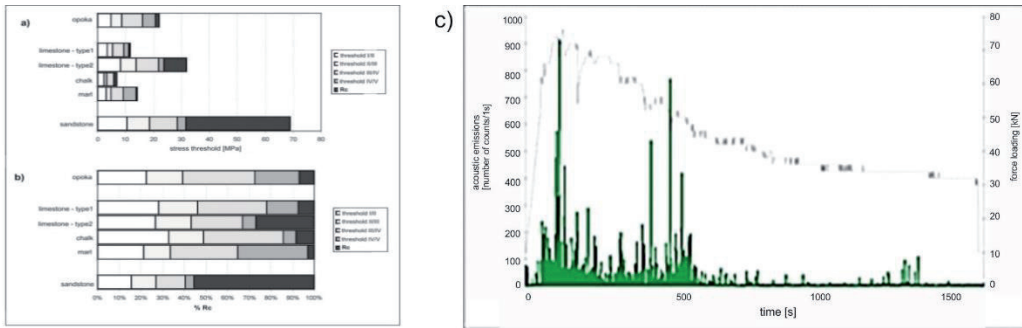
**Fig. 9: Mechanical properties of opoka and other carbonate local stones [after Pinińska, Dziedzic, 2006, 2007]: a) compressive strength ( $R_c$ ) as a function of a volume density ( $\rho$ ); b) porosity**

Therefore the opoka with fabric cementation by siliceous components is more resistant to the internal damaging (micro cracking) than other types of local rocks (Fig.10). As it was observed in laboratory compression tests, samples of much stronger carbonate sandstones show the effects of initial microcracking at a level of 30 % of its compression strength ( $R_c$ ), and after passing the 45 % of  $R_c$ , unstable cracking of its structure begins [Pinińska, 2008a]. Developing damages are manifested by a rise of volume deformation (Fig.10). It means that stronger sandstone undergoes internal serious weakening ranging a half of its resistance ( $R_c$ ), while the phase of unstable cracking in “weak” opokas appears late, under stress close to the compression strength (i.e. about 60 to 100 %  $R_c$ ). Moreover, the opoka, with minor damages of its structure has essentially high (up to 50 %) residual resistance at a post-critical state. Therefore, the apparently stronger rocks as carbonate sandstones are subjected to corrosion and disintegration earlier and easier than opoka.



**Fig. 10: Structure and volume deformations of carbonate local rocks: a) carbonate sandstone; b) opoka with its micrite structure strengthened by sponge needles**

These specific properties of opoka are convincingly visualized on comparative graphs presenting stress thresholds of deformations phases and their in % relation to compression strength ( Fig. 11a, b). Slow and predictable destruction process of opoka is also reflected in acoustic emission (AE) laboratory records (Fig. 11 c). Small quantity of signals are generated at the pre-critical state of deformation. Then, at the post-critical state, after short increase, signals slowly vanish in a relation to a level of residual strength. Afterwards, a total destruction of structure is signaled by rise of signal emission intensity typical for carbonates [Pinińska, 2008b]. At that final state of deformations, the cracked opoka becomes moisture and corrosion prone, and subjected to freezing. It makes clear why in the recent time, the unprotected opoka-stone walls of houses sited near the landslide slopes and subjected to deformations and cracking are more sensitive to climatic and anthropogenic corrosive influences.

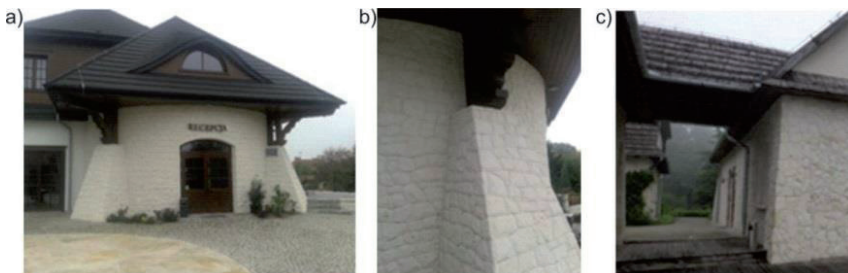


**Fig. 11: Phase of deformation intervals (according to Hallbauer, 1973) related to: a) absolute stress value; b) relation to compressive strength ( $R_c$ ) in %; c) an example of acoustic emission (AE) path in opoka under deformation**

According to presented short review properties of opoka - the “white stone”, the medieval mining and construction craftsmanship deserve special gratitude today. Developing without industrial standards, technologies and under primitive conditions of the Middle Ages, old time miners and builder were able to adjust the exploitation and processing technics to the soft opoka quality, and to requirements of their architectural aims and safety standard in a complex physiographic conditions.

## 4 THE HERITAGE OF REGIONAL MINING AND THE NEED OF ITS PROTECTION

The historical traces of mining activity, the old buildings with walls of “white stone”, and memorized industrial activity within the whole region of the river Vistula river in the vicinity of Kazimierz Dolny should be formally protected as complete, integrated cultural heritage of the centuries long economic and cultural development of the area. Moreover, the tradition, the understanding of history and the meaning of heritage must be widely introduced into the public consciousness. An important issue in improving a historical meaning of Kazimierz Dolny was elevating this town to the level of historical monument by the decision of Polish President Lech Walesa in 1994. Also, there are local initiatives in designing contemporary architectural projects according to old time arrangements and canons. New residences alike the old town houses are supplied with thick “white stone“ walls supported with buttresses (Fig. 13), what was in the old times forced up by steep walls of loessial ravines and landslides within a contact zone of the Vistula river-bank terraces and a steep slopes of a loessial plateau above.



**Fig. 13: The “White stone” walls and other architecture features in the Kazimierz Dolny town; a) modern hotel; b) stylish retaining wall against landslides (fragment); c) special roof protection from rain and moisture**

Nevertheless all the cultural heritage substances within the breakthrough stretch of a grand river with the Kazimierz Dolny town is rare to be seen generally as a complex of interacting factors of many categories and standards. The multiplied long historical experiences are concentrated around old commercial Vistula waterway serving commercial deliveries of various goods to the Baltic harbor Gdansk, from the south-east stretches of the East European cereal fields, timber woods and wildlife meat. The landscape of breakthrough offered convenient location for fortress, granaries and homes and other facilities for midway stopover of merchants, nobles, workers, artists and adventure seekers. But basically mining with its back-space of geological resources is the key contribution to the regional development and improvement of technological standards.

Therefore, the heritage of regional past must be regarded as a contribution to "... international movement for the conservation of cultural property in symbiosis with the surrounding environment and regional traditions ... " [La Nouvelle Charte d'Athènes, 2003]. Upon this base, measures were carried out to establishing The Geopark of The River Vistula Breakthrough, which, according to the UNESCO Guidelines -2006 is protecting and conserving of an important area with its "Geological and Structural Heritage". A study devoted to establishing plans for Geopark comprises an inventory and an analysis of regional abiotic conditions: geology, terrain sculpture, mining traditions and a history of economic development based upon natural element of area, and their value assessed as potentially protected geo- touristic goal [Harasimiuk et al., 2011].

The essence of National Heritage must get, however, a widespread social acceptance. That makes the problem, because every group of people understands differently the concept of heritage, and differently sees the good and bad sides of such formal designation of an area for such a park in surroundings. Establishing the Geopark is a challenging and expensive assignment, caused interference into a landscape, which should be revitalized or adapted, and for this is absolutely mandatory to have compromises between them. Primarily, the proper maintenance must be applied to the existing natural and historical monuments, the mining objects of stone, the quarries, tunnels and stone buildings, walls , and even ruins, according to the knowledge and the present state-of-art of threating monuments with respect and understanding of the properties and craftsmanship of medieval miners, builders and craftsmen.

It is crucial to remember, that the use of opoka rocks requires seasoning after extraction from the quarry, and protection from humidity in masonry structures. Especially in the varied terrain morphology of the Kazimierz Dolny, there importance of using proper positioning and reinforcements with retaining walls, in accordance to the medieval art.



**Fig. 14: a) Poorly renovated medieval opokas walls; b) retaining wall unprotected from rain, moisture and slides; c) poorly medieval renovated granary**

Also according to the knowledge, that cracking and loss of mortar connecting masonry blocks being a result of the mass movements at the steep slopes, what initiates micro-cracking and opening of pores for circulation of corrosive solutions, a special procedure should be applied into restoration works (Fig. 14 a, b & c ).

The historic buildings of Kazimierz Dolny tend often to be also poorly maintained with the mortars not fit to the opoka properties and the walls preserved by cover of plaster lose their regional character so important for medieval heritage (Fig. 15).

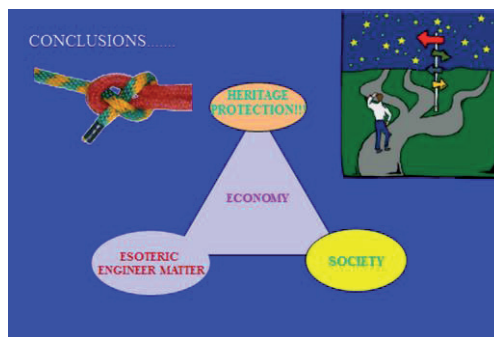


**Fig. 15: a, b&c) Opoka walls covered with plaster - historic buildings of Kazimierz Dolny.**

The prevention, maintenance, rational revitalizing, and a promotion of medieval stone architecture, which in turn resulted in development of a stone mining, rise various dilemmas to what extend remains of once flourishing diligence should be kept now? Will it be the safely prevented state of the vanishing past? How to substitute if any, the damaged forms and objects? Must it be made of original material from original site? What kind of tools should be used?

According to the La Nouvelle Charte d’Athènes (Lisbon 2003) townships ought to integrate the recent reality with the magnificence of the past, with its cultural variability born of historical richness. Establishing the Geo-park of The River Vistula Break-Through leads to fulfillment of today’s civilization trends – tying the essence of local communities with history of the region. The delicate, somehow transcendent results of comprehensively engineered integration of mood, a spirit of history and the places - needs both, the material and scientific support, a social understanding and formal acceptance.

Then: instead of “A Summary of Conclusions and Recommendations” is the slide given below. Economy is the overall ruler



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# WINDOWS FROM A LISBON PALACE. HERITAGE VALUES FOR SUSTAINABLE CONSTRUCTION

**Armando Pinto<sup>1</sup>, Dulce Franco<sup>2</sup>, Odete Domingues<sup>3</sup>**

<sup>1</sup> Laboratório Nacional de Engenharia Civil (LNEC), Av do Brasil 101, 1700-066 Lisboa, Portugal, e-mail: apinto@lnec.pt

<sup>2</sup> Laboratório Nacional de Engenharia Civil (LNEC), Av do Brasil 101, 1700-066 Lisboa, Portugal, e-mail: apinto@lnec.pt

<sup>3</sup> Laboratório Nacional de Engenharia Civil (LNEC), Av do Brasil 101, 1700-066 Lisboa, Portugal, e-mail: apinto@lnec.pt

## RESUMO

Windows are an essential element of façades providing building identity. Windows are also an important element for occupant's wellbeing and to decrease energy demand for heating, cooling ventilation and lighting. The recent development of material and technological process changed the shape, size and functionality of windows. This article describe the windows main characteristics from a Lisbon Palace, presenting their technological solutions, performance and heritage value for sustainable construction.

Keywords: Windows / Sustainable development / Energy / Comfort / Life Cycle Analysis

## 1 INTRODUCTION

Accordingly with the Roman historian Pliny, glass was discovered in an incident in a beach of the river Belus in Síria, when Phoenician sailors used pieces of natron to support their cooking pots over their fire. The fire has melted the natron that reacted with the sand, forming nodules similar to jewels, these jewels were pieces of glass. In spite of the description of Pliny it is not possible to describe where or when glass was discovered (Gonçalves 2004).

The first architectonic applications of glass appeared in ancient Rome, the broad glass was used to close building holes. In the ruins of the cities of Pompey and Herculaneum where found numerous trace elements of glass probably used in the windows of the public baths.

Before the end of the XIII century windows rarely had glass, only some relevant buildings like churches had glazed windows. The windows profiles frequently were mainly built in wood, with shape of a diamond to deflect the light and the wind (Tutton et al. 2007).

The development of windows with mullions and transoms emerged due to the fact that glass was only available in small dimensions, several of the glazes consisted of small pieces of glass glued together by a line of lead or iron and also by the requirement of mechanical resistance to the wind action.

The window has evolved in response to the resources available and the developments on the design and technology. The natural light of space and view to the outdoor has taken the constructors to be even bolder in the search for structural solutions to provide larger windows. Windows are also an integral part in the appearance of the

buildings, reflecting the practices and the historical heritage.

The essential requirements of a window are mainly related with three human expectations: daylight, fresh air and the outside view. The integration of these three expectations was only possible with the development of the sash windows at the mid-Georgian era (Tutton et al. 2007).

With the industrial revolution it was possible to obtain glass with larger dimensions that allows a broader use in architecture.

On the XIX century, in England, regardless other factors, the mortality indicators were related with the poor indoor environmental conditions in the buildings, such as humidity and poor ventilation (Tutton et al. 2007). Edwin Chadwick was in charge of finding solutions for the problems that were affecting the working classes, he proposed that the windows should not be heat conductors, it was proposed that the windows should have a second glass to eliminate the moisture in the houses. In order to improve the ventilation, on 1866 it was imposed the use of a sash window that would open in the totality of their width, although the law did not mentioned the minimum size of the windows, so many buildings did not had the acceptable window size for their ventilation.

In the past curtains and shutters were the principal method of heat conservation in the buildings, this is a recommendable method to mitigate the excessive loss of heat in old windows.

## **2 METHOD**

To study and characterize the windows and their influence on wellbeing and immaterial matters, an audit to the building was performed with the following steps:

- i. Collection of technical information about the building and windows.
- ii. Technical visit to assess and gather information about:
  - a. Windows materials, type, size, glass, shutters/blinds
  - b. Windows pathologies namely water leakage, openings or cracks, hardware malfunction, state of coatings and profiles.
  - c. Detailed analysis of relevant windows solution.
- iii. Theoretical analysis of Windows performance: Wind load resistance, air permeability, water tightness, thermal insulation and sound insulation.
- iv. Impact assessment of special windows solution for sustainable construction, namely on energy performance, indoor air quality and comfort.

In the flowing section will be presented the main findings.

## **3 CASE STUDY**

### **3.1 BUILDING**

The palace construction dates from the beginning of XIX century, having a gross floor area of 3060 m<sup>2</sup>. The building has a floor plan of nearly 58 m x 26 m, with one facade facing NE to the main street and the other facing SW to the garden. The main entrance of the building faces NW. The building has two story high, nearly 4 m floor to ceiling

high. One part of attic roof was also converted to useful area.

The building has stone masonry walls and windows apertures have thick granitic stone. The windows have an internal wing shutter, made of wood, coated with white paint. Some window of the second floor facing SW have an external awning shading system

In recent years, some windows were replaced by aluminium windows, PVC windows and in the case of windows facing the NE was applied a second aluminium window from inside. In table 1 is depicted the overall windows characteristics. The share of frame material or replaced window is related with overall window area in that façade. The main building has 109 windows, meaning that 59% of windows were changed from their initial condition.

Currently, the Palace is used as an office building, having a heating system with boiler and water radiators and the offices also have air conditioning units.

**Table 1: Windows characteristics**

Façade	Units	Area (m <sup>2</sup> )	WWR	Frame Material	Window glazed fraction	Replaced or retrofitted
NE (street)	35	105	23%	Wood (64%) Wood double window (36%)	37%	36%
SW (garden)	42	114	25%	Wood (7%) PVC (60%) Aluminium (33%)	46%	93%
NW (entrance)	16	42	20%	Wood (59%) PVC (41%)	62%	41%
SE	16	29	14%	Wood (78%) Aluminium (22%)	55%	22%

### 3.2 WINDOWS, GENERAL ASPECTS

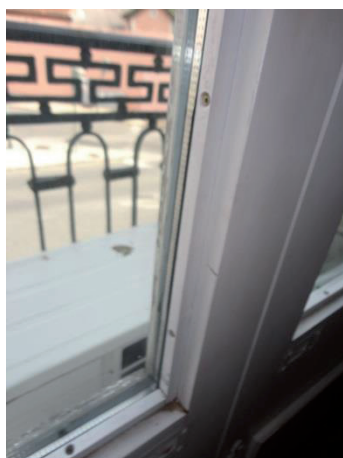
The building has 109 windows, with an area of 11% of building floor area, that mean higher than the minimum requirement from RGEU, but lower than the usual 15% or 20% in recent constructions. Fifteen of the windows were replaced in 2005 by PVC windows with double leaf, were the main leaf has tilt and turn movement. Those windows have a solar control glass and are mainly exposed to SW. In the 90's windows were replaced by aluminium windows with single glazing. In those aluminium windows facing SW, it was also applied a solar reflective sheet on the inside face of the glass.

It's interesting to stress that the major changes were done in windows facing the garden (SW). In the main façade (NE), facing the street, the outside window remains almost the same, but in the ground-floor a double window was applied from inside (fig. 1), to improve the sound insulation and thermal resistance.

In the first floor the windows facing NE remain simple, but in some of them the single glazing was replaced by a double glass (fig. 2), improving the performance and maintaining the aesthetics. In other windows was applied a glass pane in the inside face of the exiting glass, providing almost a double glass solution. In these two last solutions, the patrimonial value and functionality of the windows was preserved, while in the case shown in fig 1. the functionality of windows (natural ventilation) was partly compromised because of the additional constraint to kept open both windows.



**Figure 1: Double window**



**Figure 2: Windows with double glass**

### **3.3 WINDOWS, AIR PERMEABILITY**

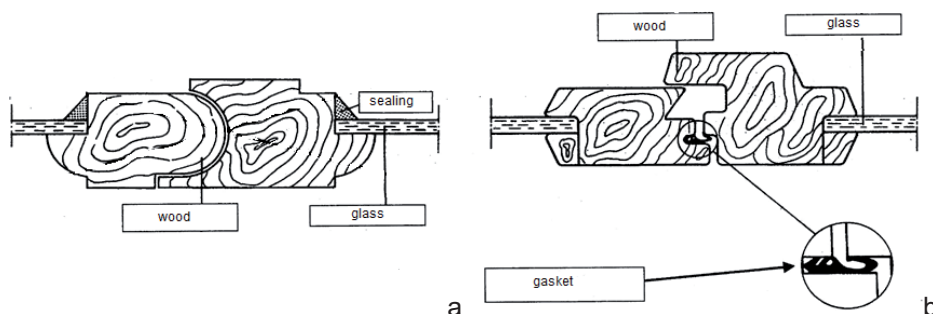
Air permeability classification of windows products with described product characteristics (table 3) can be obtained without test (EN 14351-1, 2016). The wooden windows of the Palace don't have gaskets in the movable joints (fig. 1a) and have a large (approximately 1 mm) gap between the profiles in the movable parts, meaning that the windows are leaky (REH, 2013 and Silva, 2012), allowing a large amount of uncontrolled air infiltration, but also could be responsible for water leakage and poor sound insulation. The air permeability could be limited for example applying gaskets in the movable joints (fig. 3b), reducing the heat losses in windy days and also providing a slightly higher sound insulation.

Despite the high air permeability of old windows, because the building is in city centre, relatively protected from wind, it's estimated an air flow rate due to infiltration of nearly

0.2 ach<sup>†</sup> (Pinto, 2014), that means, lower than the minimum requirements for the indoor air quality of 2 m<sup>3</sup>/(h.m<sup>2</sup>) or 0.5 ach (PORTARIA n. 353-A/2013) in this case.

**Table 3: Air permeability classification without testing<sup>‡</sup>**

Product specification	Classification
External pedestrian doorsets with a continuous weather stripping under appropriate compression	1
Fixed and openable windows with a continuous weather stripping under appropriate compression	2
Fixed lights with seal or sealant to the infilling	3



**Figure 3: Window movable joint sealing. a) Without gaskets, b) With gaskets**

### 3.4 WINDOWS, NATURAL VENTILATION

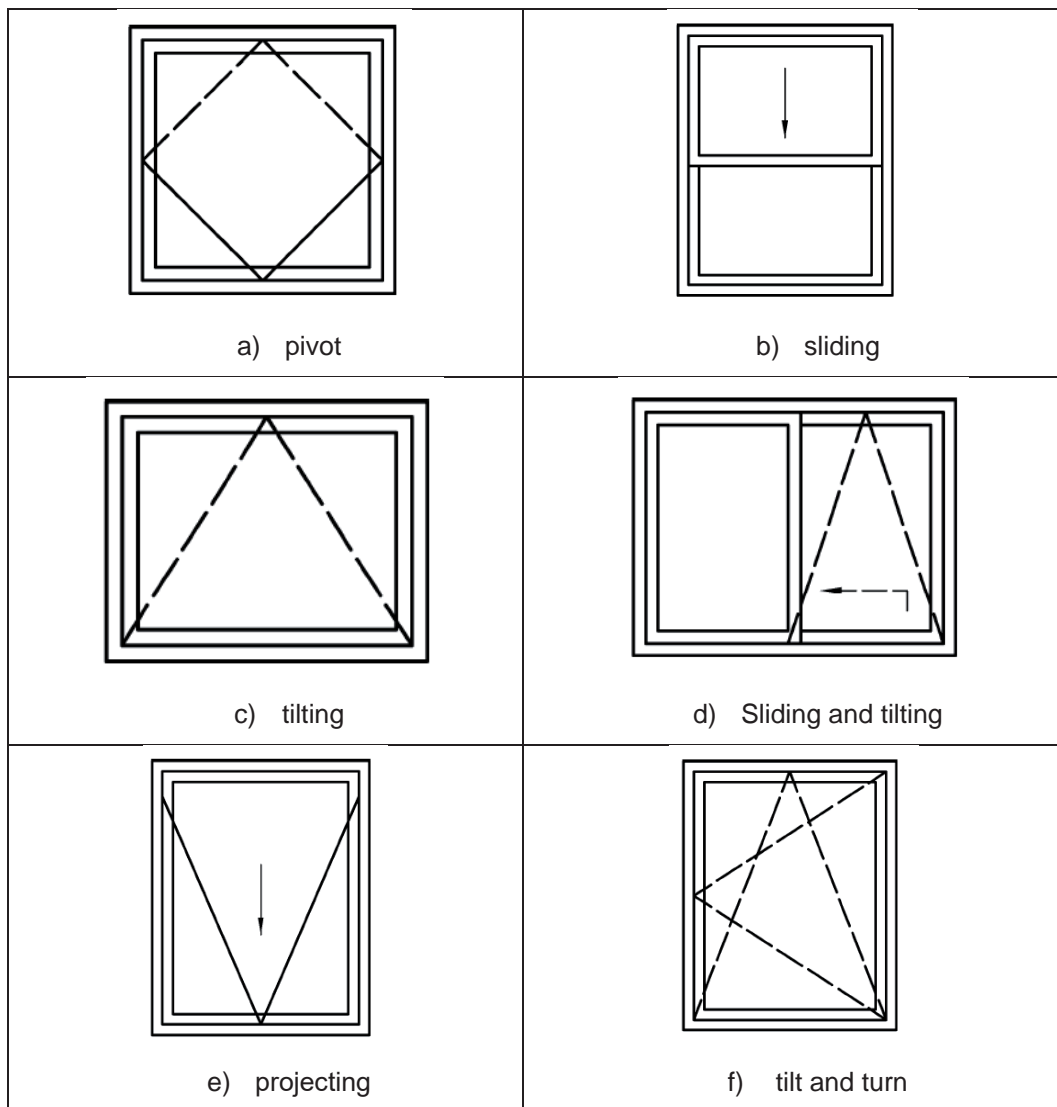
Despite the unwanted air infiltration through window gaps and cracks in building envelope that are insufficient to assure the air flow rates required for the indoor air quality, the building has several windows particularly fit to provide natural ventilation and assure indoor air quality when windows are kept open (PORTARIA n. 353-A/2013). In spring and in summer the windows could also provide an important amount (examples 5 air changes per hour) of fresh and cold air, to cool the building and building thermal mass and provide thermal comfort, decreasing the use of air conditioning and the building energy consumption.

To provide natural ventilation all windows in the building have operable leaves. But, to provide natural ventilation the leaves should have a stable position when open and also deflect the air for ceiling, to prevent discomfort for occupants. In fig. 4 are shown some examples of appropriate window types for natural ventilation (PORTARIA n. 353-A/2013). To allow the natural ventilation of spaces, usually several window/openings should be used to allow a proper air distribution inside the rooms and also to give users some control over the total opening area and the air flow rate. To provide natural ventilation the spaces should have windows with an open area of nearly 4% of floor area (400 cm<sup>2</sup>/m<sup>2</sup> floor area). In this building, with an average wind speed of 3.6 m/s, to achieve 5 ach, an opening area of nearly 75 cm<sup>2</sup>/m<sup>2</sup> of floor area could be enough. To

<sup>†</sup> ach - air changes per hour

<sup>‡</sup> Classification according section 4.14 NP EN 14351- 1:2008+A1:2011 and EN 12207

achieve 0.5 ach for indoor air quality in winter, an area of 7.5 cm<sup>2</sup>/m<sup>2</sup> of floor area could be enough if cross ventilation is achieved.



**Figure 4: Example of window type proper for natural ventilation of spaces**

Because the majority of windows have an open area greater than 50% of window area, the building has enough free open area for natural ventilation. Despite the majority of windows are from side-hung type, due to the weight of leaf, they have a stable position when open. To give user control over open area and natural ventilation this building also have small movable “glasses” inside the leaf (fig. 5b) or small projection windows on the top of the window (fig. 5a).

This kind of window type is today relatively unusual and are well adapted to provide user control confidence to let the window open, because:

- The risk of intrusion is small, because of small open dimensions;

- The risk of water infiltration is also low, since the tilting with small angle decrease that risk;
- The opening at top of the window deflects the fresh air to the ceiling decreasing the air speed in the occupied zone and also allowing a better mixing of fresh outside air with room air, preventing cold draft in winter.



**Figure 5: Windows for natural ventilation. a) projecting leaf at top, b) small projecting opening in the leaf**

### 3.5 WINDOWS, THERMAL PERFORMANCE

The windows with single glass panes present a low thermal insulation, having an coefficient of thermal transmittance ( $U_w$ ) of nearly  $5.1 \text{ W}/(\text{m}^2 \cdot \text{K})$ , while windows with double glass panes with timber profiles could have thermal transmittance values of  $2.8 \text{ W}/(\text{m}^2 \cdot \text{K})$  for 16 mm gap between glass panes. In the 70 period of last century, after the oil crises, several research projects were developed to increase building thermal insulation, namely with double windows and storm windows to increase window thermal insulation (Mimoso, 1987).

In the windows facing NE of the first floor of the Palace is possible to find windows with a double glass pane applied in the inside, were it's interesting to note the hardware to fix the inside glass pane, creating an air layer of nearly 6 mm. This specific solution have also some drawbacks, regarding the metallic contact between hardware and glass that could break the glass. The gaps around the inside glass don't increase the sound insulation of window, despite the extra glass pane.

When the objective is to increase thermal insulation, sound insulation and decrease the air permeability, usually the use of a double window is the best choice, allowing the maintenance of façade aesthetics and increase the performance of the opening with the application from inside of a new window. In this case, because of the large thickness of the walls, it's possible to apply a new window almost 50 cm apart from the original window, reducing their visual impact (fig. 1). In the case of application of



double window, it's required to have small ventilation openings between the air space and the outdoor, to reduce moisture problems and condensation in glass panes.

Regarding window size, the WWR is nearly 20%, and the window floor area ratio is 11%, meaning that the window area is relatively lower than the actual reference values of 15% to 20% for the ratio of windows to floor area and 30% for WWR. This lower window ratio is in line with the restriction in windows size in buildings from XIX century.

### 3.6 WINDOWS, SOUND INSULATION

According to windows standard EN 14351, the sound insulation of windows ( $R_w$  (C; Ctr)) of fixed and openable (top, side, bottom-hung or pivoted) windows could be assessed using table 4, if the windows belongs at least to air permeability class 3 and have at least 1 seal or 2 seals in the case of  $R_w$  window of 36 dB.

In the most severe situation defined in the acoustics regulation (DL n.º 96/2008) it is required a façade sound insulation  $D_{2m,nT,w}$  of 33 dB. In those cases, if the window has a sound insulation at least of 33 dB, the window will not compromise the sound insulation of the façade. To obtain that value of 33 dB, the sound insulation of the glass should be at least 30 dB, that means a single glass unit of 5 mm thickness, a laminated glass or a double glass 4-(6 to 16)-6 that have values not lower than 32 dB. The use of double windows, typically increase the sound insulation of the aperture at least 3 dB above the best window, meaning, that the use of an airtight (class 3) window with single glass at least 5 mm thick, could be enough to achieve an insulation of 33 dB.

**Table 4: Window sound insulation with insulation glass units<sup>§</sup>**

$R_w$ glass (dB)	$R_w$ window (dB)
27	30
28	31
29	32
30	33
32	34
34	35
36	36

### 3.7 WINDOWS, WIND LOAD RESISTANCE

The wind load resistance of windows should be assessed by testing (EN 14351). For the most deformable profiles, calculations can be performed assuming the elastic behaviour of elements (Velooso, 1976), fig. 6. For the assessment of wind load resistance, the central profiles of the window could be studied like a simple supported beam subject to a uniform load, that has the value  $P=W.L/2$ . Where  $W$  is the wind load pressure for the serviceability limit state and  $L$  is the width of the window with two leafs (fig. 6). For wood, the elastic modules could range between 7 and 17 GPa, and a value of 10 GPa could be acceptable for resinous wood. The maximum deflection of wood window profiles with single glazing should not be greater than  $H/150$  and 15 mm. For

<sup>§</sup> Classification according annex B, NP EN 14351- 1:2008+A1:2011

building until 10 m height in urban area (roughness class I or II), the wind pressure load for the serviceability limit state is 1200 Pa (NP 4517: 2015). Using the simple supported beam model, the elastic modulus of 10 GPa, the thickness of the wood profiles could be calculated and are given in fig. 5 for several window height and with 1.6 m width. It's interesting to note, that for small windows, the 35 mm thickness of the windows from the palace have enough inertia and that for windows with 3.5 height the inertia is near the value required, meaning that the old construction procedures were proper to design profiles and takes into account the window size.

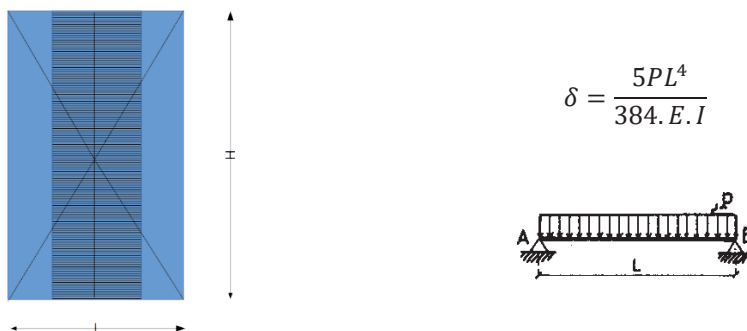


Figure 4: Wind load calculation

## 4 CONCLUSIONS

It was analysed the windows from a Palace from XIX century. Despite the technological constraints from that time, it was shown that the building presents several interesting solutions to promote the energy efficiency in buildings, namely to provide natural ventilation for indoor air quality, free cooling and thermal comfort in a sustainable way. To control natural ventilation, some windows have small projecting leafs, inside the major leaf, allowing for small openings that could be interesting to promote natural ventilation in cold seasons regarding the small opening area required. It was also emphasised the care with occupants, because several inaccessible leafs have a mechanical remote control to open and close.

The window area is lower than the reference values for current constructions, but complies with RGEU, allowing for enough opening to promote natural ventilation, but also to gather the solar heat gains and natural light (WWR of nearly 20%).

To increase the windows thermal insulation, in this building there are two well recognise solution in rehabilitation, the use of a double window (to increase also the sound insulation) and the use of a double glass pane. In the first case (double windows) some care should be taken to assure natural ventilation, because the opening of inside windows it's not suitable.

Despite the absence of standards and regulation at the time of construction, the windows with wood profiles presents cross sections that are fit for actual requirements, despite the lower glazes fraction and present better stiffness than new installed windows, that have leafs with lower height (2.5 m) than the old ones (3.4 m).

Despite the technological, historical and immaterial value of old windows and system, almost 59% of windows were replaced to increase the comfort and wellbeing in the building. To preserve those intangible values described, it's important to set a protocol

to gather the construction characterises of relevant windows and perhaps require the rehabilitation of some units to preserve those values.

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# FUNCTIONAL REHABILITATION OF HERITAGE BUILDINGS BASED ON REINFORCED CONCRETE STRUCTURAL ELEMENTS. CULTURAL/HISTORIC VALUES AND PUBLIC UTILITY TO CONSIDER

**José Miranda Dias<sup>1</sup>, António José Santos<sup>2</sup>, Armando dos Santos Pinto<sup>3</sup>, Luís Manuel Matias<sup>4</sup>, Teresa O. Santos<sup>5</sup>**

<sup>1</sup> Laboratório Nacional de Engenharia Civil (LNEC), Av. do Brasil 101, 1700-066 Lisboa, Portugal e-mail: mirandadias@lnec.pt;

<sup>2</sup> Laboratório Nacional de Engenharia Civil (LNEC), e-mail: asantos@lnec.pt

<sup>3</sup> Laboratório Nacional de Engenharia Civil (LNEC), e-mail: apinto@lnec.pt

<sup>4</sup> Laboratório Nacional de Engenharia Civil (LNEC), e-mail: lmatias@lnec.pt

<sup>5</sup> Laboratório Nacional de Engenharia Civil (LNEC), e-mail: tosanos@lnec.pt

## ABSTRACT

For the definition of conservation and rehabilitation actions in buildings of heritage value, it is necessary to take into account the significant evolution processed in several functional aspects of these buildings. The complexity of the issues involved in conservation and repair of their construction elements and functional rehabilitation requires knowledge in several domains, in order to integrate, in an interdisciplinary and multidisciplinary way, the functional requirements that are needed to be considered.

This article focuses attention on the buildings classified as cultural heritage as well as buildings not included in this classification, but which present relevant cultural/historical value or public utility. In both cases targeting the set of buildings that are specifically based on structural concrete elements associated to infill or resistant masonry walls.

Relevant aspects of the overall performance of referred heritage buildings are here presented, in particular of their walls and confining elements, concerning the different basic requirements and the other functional requirements.

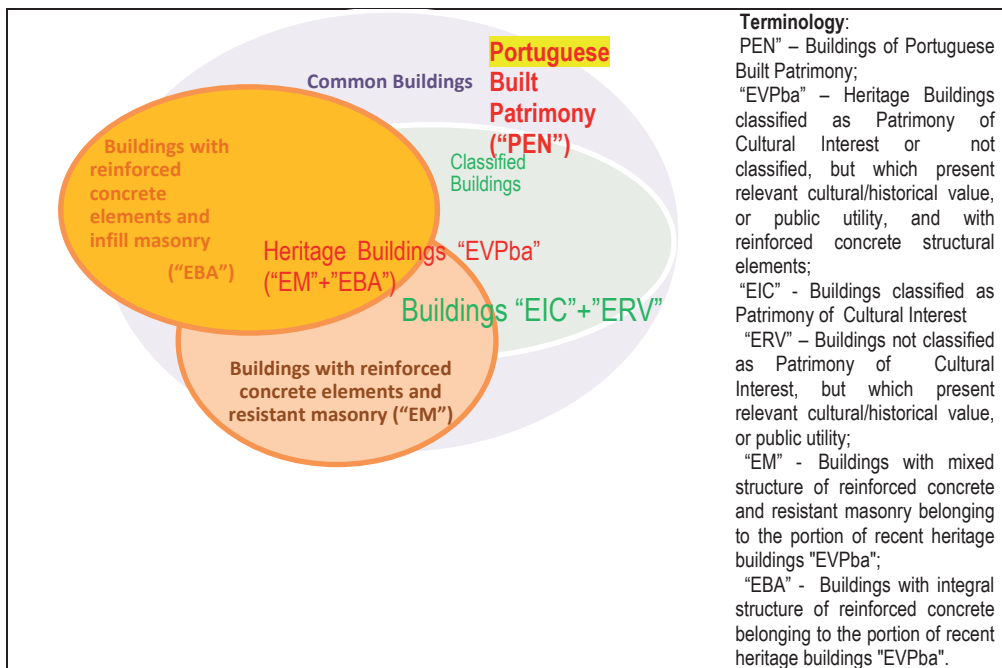
Keywords: Heritage buildings/ Masonry walls/ Reinforced concrete/ Rehabilitation

## 1 INTRODUCTION

Preservation of Portuguese built heritage, namely the 20th century buildings, has been gradually highlighted due to the increasing value assigned to this heritage, by the society, cultural agents and technicians, due to the excellence of the architectural pieces, materials and construction techniques used. However, this share of buildings has been increasingly demanding conservation and rehabilitation interventions, due in large part to the growing degradation of constructive elements, and the need to ensure an appropriate level of functionality and preservation of this type of buildings, given its cultural/historic value or public utility. It is appropriate, therefore, to promote specialized studies of this latest Portuguese built heritage, constructed in the 20th century, due to its importance and complexity of the issues involved in their preservation and rehabilitation.

In this article we intend to approach the buildings classified as cultural heritage as well as buildings not included in this classification (formally belonging to “common

buildings”), but which present relevant cultural/historical value or public utility (fig. 1.1), in both cases targeting the set of buildings that are specifically based on structural concrete elements associated to infill or resistant masonry walls (acronyms of the heritage buildings covered as defined above: “EVPba”).



**Fig. 0.1: Framework of the heritage buildings with reinforced concrete structure elements (EVPba) within the Portuguese Built Patrimony**

In the definition of conservation and rehabilitation actions to be undertaken on existing buildings, it is necessary to take into account the significant evolution, in recent decades, processed in several functional aspects of the buildings, fruit of progress and innovation, both in terms of materials and construction techniques, and of their facilities and technical systems. This development is especially remarkable and challenging in buildings of heritage value, where the complexity of the issues involved in conservation and repair of their construction elements and functional rehabilitation, requires knowledge and technical skills in several domains, in order to integrate, in an interdisciplinary and multidisciplinary way, the preservation principles and requirements that are needed to be considered; in particular those requirements deriving of applicable regulatory changes implemented from the date of construction until the present day as a result of the up-grade of the safety standards, environmental comfort (thermal, acoustic, visual and air quality), energy efficiency and quality of buildings.

Nowadays, there is a trend in buildings, in particular in heritage buildings, which point to the growing importance of their flexibility, such as: the long life cycle of buildings compared to the short life cycle of its functions; the functional obsolescence of buildings because they don't longer meet the present requirements; another trend is the rapid change of user demands compared to the slow changing possibilities of buildings. And, in addition, there is an important trend towards sustainable buildings, which especially addresses environmental and energy management issues. The increasing use of integrated building systems is changing the traditional way of

refurbishing existent heritage buildings, due to the hard task of accommodating and conciliate these complex systems with their rehabilitation constraints. Thus, it is convenient to identify situations where rehabilitation actions of the walls and confining elements, which includes also the modernization of automation and information systems of buildings, as well as of energy resources, have to be compatible in particular, with the need to assure the authenticity of the buildings. Relevant aspects of the overall performance of EVPba buildings are here presented, in particular of their walls and confining structural elements, concerning the different basic requirements and the other functional requirements.

## **2 PREVIOUS ASPECTS TO CONSIDER ABOUT THE HERITAGE BUILDINGS**

EVPba buildings were designed in order to satisfy the programmatic objectives initially defined by its promoters. Over the time, these buildings have been going through a process of change, most of them related to alteration of use, often dictated by the modification of ownership or of its objectives. With the technological development that meanwhile happened, as well as the applicable regulatory changes that have occurred since the date of construction until the present day, as a result, in particular, of the increased security standards, thermal and acoustic comfort, and energy efficiency, it is now possible to respond to new needs. However, the most appropriate solutions to address each of the aspects referred may not be compatible between them, so the overall solution has to result from a compromise between the different approaches.

On the other hand, it can be concluded the need to update the functional performance of buildings, by the results of surveys on the state of conservation of buildings, under the Housing Census 2011 (INE), which points that a considerable portion of the buildings built last century based in reinforced concrete structural elements (universe in which integrates the portion of EVPba buildings addressed to housing) requires conservation and rehabilitation works in view of the predictable degradation of constructive elements, reflecting their age (these are buildings constructed since 1920). To this set of circumstances must be added the desideratum of ensuring, at all times, an adequate level of use, given the cultural/historical value or public utility of this type of buildings.

Accordingly, here it is intended to examine, in general, the current performance of the existing EVPba buildings. As part of this analysis the previous questions about the main conditioning aspects on the overall performance of heritage buildings are presented, in particular the walls and confining elements that integrate these existing buildings, given the different basic requirements applicable to the buildings and the other functional requirements specific to this type of heritage buildings. Essentially, in the case of these buildings, there is a special concern about the functional requirements that oblige the constructive elements to ensure the achievement of relevant functions and activities planned for a building with relevant value, ensuring at the same time, to the respective users, adequate security, health and habitability conditions, in the context of minimizing operating costs of the building.

Through the identification of those conditioning aspects, it can then be more easily addressed aspects relevant to the assessment of the state of conservation of the buildings, both in terms of construction or in functional terms. From the functional point of view, which is here especially focused, on one hand it is important to evaluate the deviation of the current level of performance in relation to the original performance of

the building (this is the performance shortly after the beginning of the use, regardless of whether errors in the execution project were made or not), essentially due to performance loss associated with use during the period of exploration and wear of the materials and the building's original components and equipment; on the other hand, there is an interest in evaluating the degree of deviation of the building's performance in relation to the current regulatory framework, arising from any applicable regulatory changes, or due to alteration of parts of the building or modification of the subjected actions (dead load, variable actions, etc.). To analyze properly the functional performance of buildings EVPba, it is convenient to classify this set of assets in large groups of similar characteristics, taking into account the different functions that are required in each of these groups, as well as their relevance. For this division, it was considered advantageous to use a classification based in the legal Portuguese framework of the fire safety in buildings (SCIE - Decree-Law No. 220/2008 of 12 November), which lays down the characteristics of the buildings through type of use groups (article nº 8), and here it was opted to combine some type of uses to better suit the type of EVPba buildings, as follows:

- a) Houses
- b) Administrative buildings (offices, courts)
- c) School buildings
- d) Hospital Buildings
- e) Entertaining/Show buildings
- f) Sports Buildings
- g) Religious buildings
- h) Hotels buildings
- i) Commercial buildings
- j) Transport Stations
- k) Museums, art galleries, libraries and archives
- l) Industrial buildings, workshops and warehouses
- m) Farm buildings
- n) Multi-functional buildings

It should be noted that European Standardization and the applicable national rules, in some aspects, establish significantly differentiated requirements to each of these groups, with regard to basic requirements: RB1-Mechanical resistance and stability; RB2-Safety in case of fire; RB3-Hygiene, health and environment; RB4-Safety and accessibility in use; RB5-Protection against noise; RB6-Energy economy and heat retention; RB7-Sustainable use of natural resources). It should be referred that the set of buildings EVPba covers both buildings with character of public use or private use. With regard to the share of buildings with character of public use, it can be observed a very significant number of buildings in which the State is its occupant, either as owner or as tenant. This is especially valid (true) for buildings of type b), c), d), f), j) and k). The intervention on an "EVPba" building requires the study of his background: the design of the building, constructive solutions used, and the history of the building for the period of service, in particular the aspects relating to the constructive amendments and with the damage that has occurred in the building. Walls, floors and ceilings surfaces are often elements of particular aesthetic and decorative characteristics, sometimes made of carefully chosen materials by specialized artisans. They are also very exposed to external actions and are in the way for many interventions regarding relevant functions, such as thermal and acoustic behavior, incorporation of technical nets, etc. Thus, it is crucial the identification of the elements to preserve and the definition of techniques for their conservation and repair, with compatible and durable techniques and materials. Then, it is needed to verify the possibility of guaranteeing all the other functions without significant change of those elements. In the cases for which

the option is for non-preservation due to extensive damage and technically invariable repair of the construction elements, solutions shall be defined that enable the accomplishment of the needed functions without promotion of incompatibility or reduction of health, safety and environmental parameters, as well as to assure the authenticity of the buildings.

To the common functional defects, the corresponding needs of repair or rehabilitation must be evaluated, which should be dependent on the respective degree of importance in terms of the functional performance affected and the cultural value of the building. The assessment must be made of the main variables (thermal insulation, acoustic performance, reaction and resistance to fire, etc.), intrinsic to the methodology of repair or rehabilitation, that can be influential in the achievement of goals in terms of the satisfaction of the essential requirements, and to the assurance of adequate level of remaining service life, while simultaneously respecting cultural/historic value and public utility. For that objective it is essential to understand the relative importance of these variables, and possible mutual relation and synergetic effects, aiming an optimization process of choosing proper measures of repair and rehabilitation, and in the search of path for extending building service life and minimizing costs. For example, in a very common case of a EVPba residential building that is to be converted into a Historical Inn (Hotel), the satisfaction of the basic requirements of construction is not as important as the maintenance of the original building outlines, and the ponderation of rehabilitation options should reflect the imperative of primarily respecting the principles of preservation of the essential cultural characteristics of the building. It is an important goal to enhance building global performance in renovation of heritage buildings walls and confining elements, and determine the rate of maintenance actions and the possible need of the rehabilitation actions in order to increase the building service life. To obtain such goal is important to research the crosslink between the different essential requirements, in order to choose the best rehabilitation solutions.

### **3 BASIC REQUIREMENTS AND KEY FEATURES AND CONSTRAINTS ASPECTS OF HERITAGE BUILDING PERFORMANCE**

#### **3.1 GENERAL**

Here are presented the main aspects of the overall performance of the heritage buildings, in particular its walls and confining elements, concerning the different basic requirements and the other functional requirement. However it must be stressed that the criterion relating to the basic requirements of construction can be, in a particular building with relevant cultural/historic value, not as important as another criterion related to the maintenance of the original building outlines. On classification of cultural properties, it can be established other criteria, such as the assessment of the added value of types of architectural ensembles associated with modernist architecture and the modern movement, the industrial architecture, military and religious architecture, the resort architecture, etc., which broadens the universe of buildings that may be subject to protection/classification. Such leads to an increase of complexity in the selection of conservation and rehabilitation solutions, in operations of renovation of buildings with heritage value, to ensure the extension of the service life. Under these conditions, due to its relative importance, it is vital to consider this unclassified heritage that complements the cultural heritage for which were laid down ground rules and



objectives through Portuguese Law (Law No. 107/2001) and of Decree-Law No. 140/2009.

Considering the universe of those EVPba buildings that needs to be subjected to conservation and rehabilitation, and the uniqueness of techniques required by different types of constructive solutions, that inevitably imposes different methodologies of intervention. Taking into consideration the arguments previously presented, it is important to define an appropriate methodology to deal with the variety of factors that influence the selection of solutions for conservation and rehabilitation of those buildings walls. The methodology must take into account the diversity of tangible and intangible values of the walls and their architectural and decorative elements, using the various skills that matter to involve and provide integrated solutions considering their multidisciplinary character, but based on the satisfaction of basic requirements. An important aspect is the definition of integrated solutions that solve various functional and aesthetic aspects, without destruction of cultural value, namely, preserving, to the extent possible, the techniques, elements, surfaces and materials which, because of its specificity and characteristics, historical, artistic, or constructive, are part of this cultural value. It searches also set criteria for the decision-making process of choice of durable solutions for the conservation and rehabilitation of walls and also confining structural elements of buildings of heritage value. In construction and rehabilitation of building envelope, when numerous decision criteria must be taken into account in order to give a satisfactory solution, there is a need to rationalize the decision-making process, diminishing the subjective elements that can be in majority in the decision-making process and to promoting the transparency of the prioritization process. In fact, the complexity of decisions involved in the construction and rehabilitation of building facades requires a selection of possible options based on a wider variety of considerations in addition to pure technical considerations. In decision making it is essential to be able to take into account the impacts of basic requirements, and other issues related to economic, technological, functional, ecological, social, and regulatory matters. And, the example above referred of the building rehabilitation into a Historical Inn, can be a challenging case of complex choice between different available options for rehabilitation, when the need of improving global comfort of rooms and well-being of the guests, increasing thermal insulation, solar protection of the external walls, has to be balanced with the need of preserving the decorative elements that exist in the external and internal face of the facades. Moreover, it is difficult to quantify the intangible benefits of advanced construction technologies and the risks involved in implementing such technologies with the use of traditional analysis techniques. So, it may be appropriate to consider these general items in qualitative forms in a multi-criteria analysis. Thus it is crucial the analysis of the interrelation between these basic requirements of walls, in particular concerning mechanical strength and stability, thermal and acoustic insulation, watertightness, fire safety, hygiene and health in the context of complex operations of renovation of heritage buildings, especially of public buildings.

### **3.2 RB1 - MECHANICAL RESISTANCE AND STABILITY**

The evaluation of the structural safety of buildings "EVPba" and their possible structural reinforcement is, in general, of some complexity, largely due to the need of consider the cultural/historical value or public utility, which leads in convenience of adopting specific methodologies, in general other than those that are used in the approach used in construction of new buildings. This need is more critical if it is necessary structural reinforcement of the buildings.

The type of structural intervention to be carried out in a building "EVPba" may vary between simple maintenance to the extensive rehabilitation, in which, alongside the structural reinforcement, it improves the functional performance of the building in relation to the other basic requirements, in particular concerning fire safety, sound and thermal insulation, etc. Concerning the seismic resistance of heritage buildings, one main question related to masonry walls refers to uncertainty of the mechanical properties of the infill masonry and their influence on the structural behavior of the buildings. So, the uncertainty in the evaluation of the existent structures and possible structural intervention, associated to the age and date of construction, to eventual non-visible imperfections, or to the previous ignored effects of earthquakes, is matter that as to be considered in the analysis. But the need to link different construction elements, in particular masonry and structural elements, becomes essential to confer proper seismic behavior of construction. However, that may collide with the demand for minimization of thermal bridges through strengthening masonry panels relatively disconnected to the structure, or even the promoted separation along the interface between the walls and structure. It is important to solve the problem of reconciling the various requirements through choosing solutions that promote the interconnection of the various elements, non-structural and structural. Such passes through an effort of weighting of criteria and evaluation of available alternatives. Other issue of great relevance for EVPba buildings is the assessment of the impact of geotechnical works which affect adjacent buildings with masonry walls, and also to ensure a better performance of masonry walls against the risk of settlements of foundations.

### 3.3 RB2 - FIRE SAFETY

The fire safety of buildings EVPba was being gradually improved over time as standardization and regulation applicable to build buildings were introduced, which reflected the advancement of knowledge in this area.

Currently checking the safety in case of fire of buildings must take into account the relevant European and national regulatory requirements; with regard to the Portuguese rules, verification of fire safety of the building must be made according to the Portuguese legal system of fire safety in buildings, designated by the acronym of SCIE (Decree-Law No. 220/2008 of 12 November), and with the "Technical Regulation of Fire Safety in Buildings", which sets out the General and specific technical conditions of the SCIE (Ministerial Order nº 1532/2008, 29 December).

As defined in Ministerial Order nº 1532/2008, the fire resistance of the walls refers to the maintenance of the respective characteristics to face the flames and hot gases and the thermal insulation, or another specific function during a given time period, when subjected to heating process resulting from a fire. The limitation of the generation and spread of fire and smoke within a given area bounded by the walls is made by minimizing their ability to contribute to the full development of a fire, and is expressed through the different levels of performance, in terms of reaction to fire of coatings of the walls, in the actual conditions of application. With regard to this basic requirement of fire safety, in the event of an outbreak of fire buildings must be assure that: the load-bearing capacity of the construction can be assumed for a specific period of time; the generation and spread of fire and smoke within the construction works are limited; the spread of fire to neighboring construction works is limited; occupants can leave the construction works or be rescued by other means; the safety of rescue teams is taken into consideration.

### **3.4 RB3 - HYGIENE, HEALTH AND ENVIRONMENT**

In this basic requirement of hygiene, health and environment, the EVPba buildings must be such that they will, throughout their life cycle, not be a threat to the hygiene or health and safety of workers, occupants or neighbors, nor have an exceedingly high impact, over their entire life cycle, on the environmental quality or on the climate, particularly, during their use, as a result, in particular, of: release of toxic gases; hazardous substances, emissions of volatile organic compounds (VOCs), greenhouse gas emissions or hazardous particles into the air inside or outside; emission of dangerous radiation; moisture in parts or construction work surfaces.

Failure of a building facade to control water leaks is one of the most common building facade failures. With traditional masonry walls, water leakage to the interior are minimized because the solid masonry mass will absorb water and gradually expel it as vapor. With cavity wall systems, water that penetrates the facade must be conveyed to internal through-wall flashings and weep holes via wall cavities. The presence of moisture inside the walls of EVPba building's facade can involve a number of risks, in particular the degradation of insulating elements, corrosion of metallic elements that exist in their interior and the consequent cracking of surrounding elements; If this moisture reaches the inner facade wall renders, this can cause the formation of moisture and mold stains in these renders and can be reflected on their progressive degradation, especially in interior finishes.

### **3.5 RB4 - SAFETY AND ACCESSIBILITY IN USE**

On this basic requirement of safety and accessibility in use, the EVPba buildings must have such characteristics that do not involve unacceptable risks of accidents or damage during their use and operation, as, for example, risks of slipping, falling, collision, burns, electrocution and injuries caused by explosion and theft. In particular, should take into account accessibility and use by people with disabilities. The actions relating to permanent and accidental loads on interior and exterior walls, in particular accidental actions of shock resulting from falling or projection of people and objects, or eccentric loads associated with the suspension of equipment or furniture in renderings of walls, can generate significant efforts which oblige these walls to have enough mechanical resistance and adequate stability characteristics in order to not put at risk the security of people, or cause excessive deformations of the elements.

EVPba building facades sometimes includes non-structural building elements, so it is important to study carefully the connections and supporting elements, which must accommodate wind and seismic loads as well as structural deflections, in order to avoid damage to artistic and decorative elements. These features must be provided by setting the maximum size of the walls between locking elements, so as to limit the respective slenderness (i.e. minimizing the relationship between the vertically dimension and their wall thickness).

### **3.6 RB5 - PROTECTION AGAINST NOISE**

With regard to this basic requirement of protection against noise, buildings must assure that the noise perceived by the occupants or people nearby is kept to a level that will not threaten their health and will allow them to sleep, rest and work in satisfactory conditions. Verification of conditions for protection against noise of EVPba buildings must take into account the relevant European and national regulatory requirements. For Portugal, the acoustic requirements related to EVPba buildings are defined in the

Building Acoustics Code (RRAE), approved by Decree-Law No. 96/2008, of June 9.

In the case of Housing buildings (mixed and not mixed), Hotels, Schools, Hospitals and Research Buildings (respectively, articles 5, 7 and 8 of RRAE), the airborne sound insulation of the external walls is characterized by  $D_{2m,nT,w}$  index which, from a legal standpoint, must satisfy certain conditions, depending on the classification of urban areas as set by the Portuguese Noise Pollution Act (RGR) approved by Decree-Law No 9/2007, of January 17. In what respects rehabilitation or renovation of Auditoriums or Theaters, herein considered as buildings of cultural value and public utility, the sound insulation provided by facades should be such that the noise level established inside is less than or equal to 30 dB (A). In the case of EVPba buildings subjected to renewal operations, in order to approach the level of current requirements and for the purpose of compliance with the correct environmental integration, it should be, first of all, necessary to quantify the existing sound insulation, using appropriate estimation methodologies, or to carry out acoustic tests. It should be noted that sound insulation of a facade element depends on the opaque and glazed components, the latter being determinant in the estimation of the  $D_{2m,nT,w}$  index. The sound insulation of the glazing component is a function of window area, the type of opening, the type and thickness of the glass.

Other aspects that can be considered relevant, according to each existing case, such as those associated with the airborne sound insulation ( $D_{nT,w}$ ) or the impact sound insulation ( $L_{nT,w}$ ) between certain spaces for indoor use, the respective procedure should be identical to that for the facades, based on the verification of the existing situation and subsequent assessment of the correspondent need for the strengthening or improvement of sound insulation between the respective spaces.

Considering that, generally, the EVPba buildings are not addressed for housing, the functional requirements that relate to the acoustic comfort, may not arise from regulatory issues, but just based on programmatic objectives, in accordance with each special case. Finally, for a correct behavior of the spaces of the EVPba interested buildings, it should not be forgotten also all aspects related to the equipment and facilities, which are often considered relevant noise sources, both from the perspective of the resting as well as on the use of building type in cause.

### 3.7 RB6 - ENERGY ECONOMY AND HEAT RETENTION

On this basic requirement of energy saving and thermal insulation, EVPba buildings and their facilities (heating, cooling, lighting and ventilation) shall provide features to increase energy efficiency and reduce the amount of energy needed to provide comfort, taking into account the kind of occupation of buildings, the users and the climatic conditions of their location. Building materials and buildings construction, maintenance, rehabilitation and dismantling should also be planned to reduce the energy use during construction and dismantling.

The improved thermal insulation of the envelope is essential for the reduction of energy consumption and to the improvement of thermal comfort and to avoid surface condensation and mold growth. So, it is vital the development of solutions which significantly reduce the cost of renovations of buildings; and on the development of innovative and affordable building renovation solutions for heritage buildings that can deliver significant improvements in energy performance while ensuring indoor comfort requirements, reversible solutions, with concern to eco-innovation and sustainability by integrating cost-effective technologies for energy efficiency and renewable energy

solutions. All the research will be developed through increased collaboration and cooperation and fostering of a more interdisciplinary approach. It is essential to study the solutions aimed at ensuring, for the service life, a thermal behavior of surrounding walls (including the windows) to ensure thermal comfort levels considered acceptable and limit consumption of energy in heating or cooling. The challenge is the complex adaptation of building envelope to a dynamic and changeable environment during its service life. And the development of strategies for increasing functional performance must be guided through improved air quality, moisture control, ventilation control and energy recovery; enhanced acoustic properties; and improved fire resistance. The analysis of the conservation status and the potential for rehabilitation should incorporate in decision-making the impact of glazed openings in satisfaction of the requirements of thermal comfort, sound insulation, air quality, visual comfort. This analysis must be identified by the value of the asset, the outer and inner view that can change and the possibility of change for example: the dimensions of the spans, composition, the type of glass, profiles, hardware and sun protection solutions. The interventions in glazed openings must have a comprehensive and integrative perspective of improvement of living conditions, and may enhance the reduction of water infiltrations, meet wind resistance issues, aspects of the spans and improving the architecture of the building.

Portuguese regulation related to thermal performance of buildings (residential and services) are defined in Decree-Law No. 118/2013. This Document defines the requirements for new and / or intervention buildings, as well as the parameters and methodologies for characterizing the energy performance under nominal conditions of buildings and their technical systems, in order to improve of thermal comfort of occupants. Thermal comfort is a subjective sensation that depends on personal factors, the type of clothing and the kind of activity developed. International standards (EN 15251, 2007, ISO 7730, 2005) define operating temperature ranges for different thermal comfort classes, depending on type of building, type of occupants, kind of climate and national differences. EN 15251 also differentiates recommendations for mechanical heated and cooled buildings and for passive buildings (without mechanical cooling systems).

Currently the regulation of energy efficiency of buildings, where applicable, also imposes limits on the thermal insulation of windows and sun protection requirements and integration into the ventilation system of the building. The heritage value of the building and the need to preserve appearance and materials can make the proper rehabilitation of windows. Regarding the visual comfort, two aspects must be addressed: daylighting and electric lighting. The main purpose of daylight in buildings is to provide an adequate indoor visual environment that ensures the most adequate luminous conditions for the performance of visual tasks. These conditions include: i) adequate lighting levels and distribution, ii) the guarantee of visual comfort for the occupants and iii) the more subjective benefits related to the use of natural light instead of artificial light and the contact with the exterior environment through windows. Daylighting can also contribute to energy efficiency provided that its energy impacts are correctly assessed during the design phase of buildings. Buildings should also have energy-efficient and flexible artificial lighting systems in order to provide the most suitable conditions for articulation and complementarity between daylighting and artificial lighting systems so that the use of the latter only takes place when lighting needs cannot be satisfied by daylight only. This articulation should be carried out by means of an adequate zoning of the spaces and a judicious choice of the daylight and electric light control systems. The main requirements for lighting in buildings can be

found in two international standards (EN 12464-1 and EN 15193) and also in (Santos, 2014). These documents include the most relevant parameters and respective target values and methodologies in order to assure that a building has adequate visual comfort conditions for its occupants maintaining good levels of energy efficiency.

## **R7 - SUSTAINABLE USE OF NATURAL RESOURCES**

In this basic requirement, the EVPba buildings shall provide such features that can ensure a sustainable use of natural resources and, in particular, ensure: the re-use or recyclability of the construction, the materials and their parts after demolition; the durability of buildings; and the use in buildings of raw materials and secondary materials compatible with the environment. Recent heritage buildings, based on reinforced concrete frames and infill masonry walls, during service life, are subjected to degradation due to external actions (chemical or biological agents and climate change effect) and internal actions which particularly lead to defects in masonry walls. These defects can affect also other wall confining elements and compromise the expected service life of the building, and in extreme cases can reach such an unacceptable level of inconvenience to the normal use of the building that, to avoid the demolition of the building, a rehabilitation of the walls cannot be further delayed. The deterioration throughout the service life of materials and components (caused by physical agents, biological and chemical) ends up in some cases by significantly affect the performance of construction, particularly with regard to satisfying the basic requirements of EVPba buildings.

## **4 FINAL CONSIDERATIONS**

Under the effort of conservation and protection of EVPba buildings, specific matters that typify the buildings in the context of the respective cultural/historical value or public utility, and of constructive/functional aspects, were discussed. A reflection was made which explore the idea of graduating that efforts taking in account the relative importance of each type of building and, in the light of this, promote the study of preventive and/or curative actions better suited to allow maximizing service life of these buildings. The idea is to extend as far as possible the period of exploration, without significant loss of its intrinsic cultural value and without losing the guarantee of maintaining adequate levels of security and functionality. Relevant performance constraints aspects to consider in EVPba buildings were presented within the framework of complex operations, in particular covering the masonry walls and confining structural elements. Here, in particular, the following aspects were generally examined: basic requirements of EVPba buildings and their interrelation, especially concerning mechanical strength and stability, thermal and acoustic insulation, fire safety, hygiene and health. It is considered essential the definition of a general criteria relating to the process of choice of durable solutions for the conservation and rehabilitation of walls and confining elements of buildings of heritage value. That leads to a definition of a methodology for selection of rehabilitation solutions, based on the discussion of priorities aiming the respect of their cultural/historical value or public utility, and the minimization of constructional defects during the remaining service life as well as global costs, and enhancement of different functional performance and their balanced combination.

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# ASSESSMENT OF THE HYGROTHERMAL AIR CONDITIONS OF THE SCIENCE MUSEUM OF THE UNIVERSITY OF COIMBRA

**Luísa Dias Pereira<sup>1</sup>, Adélio Rodrigues Gaspar<sup>1</sup>, José Joaquim Costa<sup>1</sup>, Gilberto Pereira<sup>2</sup>**

<sup>1</sup> ADAI, LAETA, Department of Mechanical Engineering, University of Coimbra, Portugal, e-mail: [luisa.pereira@uc.pt](mailto:luisa.pereira@uc.pt)

<sup>2</sup> Museu da Ciência da Universidade de Coimbra (MCUC)

## ABSTRACT

This paper presents the preliminary results of the study of the hygrothermal air conditions of the Science Museum of the University of Coimbra (UC), a XVI-XVIII century building. It is located in the historic centre of the UC, officially declared as a World Heritage in 2013 by UNESCO. Since then, the museum has been receiving an increasing number of visitors.

No previous studies on the environmental conditions of this museum were performed before. In face of this, the Rectorate of the University, who is concerned about the heritage preservation, started a research project focused on the thorough characterization of the hygrothermal air conditions within several museum rooms and on the assessment of risk situations, for both the heritage and human health issues.

Within this paper, some early results of more than one-year monitoring of the hygrothermal air conditions of two exhibition rooms of the Museum are presented and discussed.

Keywords: Microclimate / Conservation / Hygrothermal analysis / Heritage building

## 1 INTRODUCTION

In 2013, the buildings of 'University of Coimbra – Alta and Sofia' were declared a World Heritage Site by UNESCO (UNESCO 2013), turning Coimbra into part of an important tourist circuit in Portugal. The Science Museum of the University of Coimbra [*Museu da Ciência da Universidade de Coimbra* (MCUC)], a XVI-XVIII century building is located in 'Alta' and it is part of this tangible heritage. It allocates part of the scientific collections of the University, some of the oldest and most important of the country. Many of these objects date back from the Pombaline Reform of the University, which took place in the last quarter of the 18th century establishing the basis for modern teaching and scientific research in Portugal' (MUSEU DA CIÊNCIA 2017).

A review on indoor air quality in museums is presented in (Zorpas & Skouroupatis 2016). More recently, attention has been paid to sustainable retrofitting of cultural heritage buildings (Hernández 2014), (Zeno et al. 2014), (Troj & Sebastian 2014). In particular, emphasis has been given to the indoor environmental conditions in museum spaces and to the energy impact of 'ideal' conservation microclimates (Radon et al. 2013), (Ferdyn-Grygierek & Baranowski 2015), (Kramer et al. 2016), (Mueller 2013), (Hartman et al. 2013). A final version of the EN 16883:2015 draft is forthcoming (Conservation of cultural heritage — Guidelines for improving the energy performance



of historic buildings) (DIN EN 16883:2015-07 - Draft 2015).

Though energy conservation is presently a very important issue, in cases such as the MCUC, due to the absence of any heating, ventilation and air conditioning (HVAC) system, the main current concern is the general environmental condition and possible corresponding risks of damage of the collections. Moreover, this historic building has undergone different construction phases, and the envelope has different properties according to these construction periods.

Considering that the indoor conditions have a significant role in the protection of the tangible heritage of the MCUC (both the building and the exhibited material), promoting monitoring campaigns of the hygrothermal air conditions is fundamental to ascertain any risk conditions. Based on this concern, the MCUC personnel along with the Rectorate of the University has been carrying monitoring campaigns of these conditions in order to (i) assess the current hygrothermal air conditions of the MCUC, (ii) investigate the possible related risks to the tangible heritage, and (iii) determine actions and mitigating passive solutions.

Within the current paper, more than one-year monitoring of the indoor air temperature ( $T$ , °C) and relative humidity (RH, %) of two exhibition rooms of the Museum are presented and discussed in the light of international guidelines.

## 2 METHODS

The Science Museum of the University of Coimbra (MCUC) was the first Portuguese university museum, and it is located at the ancient Jesus College, in the north-eastern area of the historic centre of the University of Coimbra (UC), as shown in Fig. 1. Currently it holds several collections, such as Physics, Astronomy, Chemistry and Natural History (MUSEU DA CIÊNCIA 2017). The scientific instruments of the eighteenth century belonging to the Physics Cabinet, as well as the ethnographic objects collected by Alexandre Rodrigues Ferreira in Brazil (between 1783 and 1792) are well known worldwide for their importance and rarity. The museum has also a very important collection (Natural History) of the former Portuguese Colonies in Africa.

In the spaces considered for this study the collections are very diverse. We can find skeletons, embalmed animals, insects, shells, minerals and rocks, fossils, books, watercolors, ceramics, ethnographic objects, among others. These objects are composed of many materials like leather, feathers, bone, ivory, wood, paper, several metals, glass, stone, etc.; some of which containing more than one type of material.

The original building (1541) housed the Society of Jesus and was reconstructed between 1773-1775, during the so-called Pombaline intervention, being adapted in order (i) to create ample rooms and with furniture suitable for storage and exhibition of the Natural History collections, and (ii) to become a university building, housing equipment for the experimental teaching of science. One great richness of this collection is the peculiarity of being preserved in the original spaces and in the cabinets that were built for the purpose (Isabel Carreira et al 2000).

The Museum is not provided with any air conditioned system. It is daily open, closing only on Mondays and other 5 holidays during the year. Between March 1<sup>st</sup> and September 30<sup>th</sup> it is open 7 days/week. The analysed exhibition rooms (1 & 2), located in the first floor of the building, are integrated in a carriage-type Gallery (Fig. 2a).



**Figure 1: a) Location of the Science Museum of the University of Coimbra (MCUC), [ArcGis (2017)]; b) external view of the Museum East façade**

## 2.1 THE MONITORING CAMPAIGNS

Indoor air temperature ( $T_a$ , °C) and relative humidity (RH, %) were monitored for over one year, during several monitoring campaigns, namely: (1) 07/07/2015 to 07/12/2015; (2) 07/12/2016 to 28/04/2016; (3) 26/07/2016 to 07/12/2016. The parameters were registered every 15 minutes during all the campaigns using Tinytag View 2 (TV-4501) data loggers. *‘The TV-4501 has an unobtrusive grey case and monitors temperatures from -25 to +50°C and relative humidity from 0 to 100% using built-in sensors. The coated RH sensor offers good resistance to moisture and condensation.’* This unit *‘has a display providing a visual readout’* (Tinytag n.d.).

### 2.1.1 Case studies description

Exhibition room n°1 (Fig. 2c), the Vandelli Hall – named after Domingos Vandelli (1730-1816), the first professor of Natural History and Chemistry at the UC – has samples of the oldest collections of the acquis. In this room the data logger was placed inside a relatively tight display case made of wood and glass, provided with LED lighting. Exhibition room n°2 (Fig. 2b) – the Portugal Hall – is dedicated to the fauna of the Iberian Peninsula. Herein, the data logger was placed above one of the display cases, about 3 meters high, in the centre of the room. The main data concerning the exhibition rooms’ characteristics are presented in Table 1.

**Table 1: Room characteristics of case studies / Equipment (N° and location)**

	Floor surface (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Window orientation	No. of windows	Equipment (No. & location)
Vandelli Hall	118	888	East	4	01   inside a display case (± 0.80m from the floor)
Portugal Hall	263	1645	West	6	01   above a display case (± 3.00 from the floor)

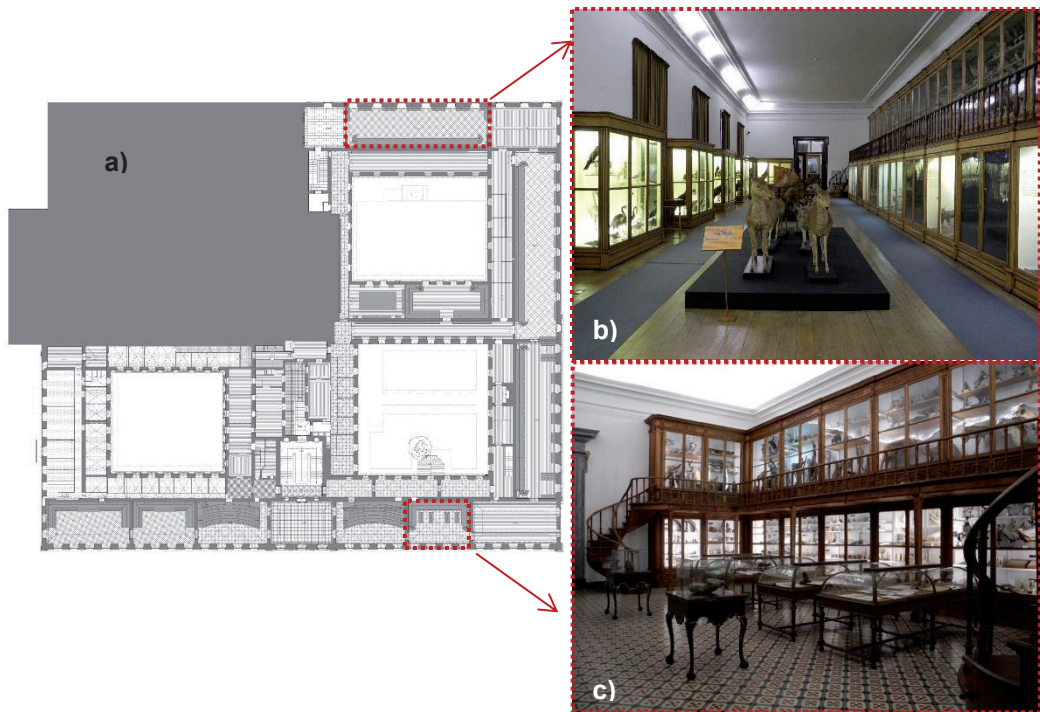


Figure 2: a) Plan of the first floor of MCUC; b) Portugal Hall; c) Vandelli Hall

### 3 RESULTS AND DISCUSSION

The following results were analysed according to the ASHRAE guidelines for indoor conditions of museum collections (ASHRAE 2015). As suggested by (Huijbregts et al. 2012), the potential damage risk of the collection was assessed framing the MCUC into Class B – appropriate for most historic buildings and presenting ‘a very small risk for most artifacts’. ‘Classes B and C (...) are the best that can be done in most historic buildings’, (ASHRAE 2015). Broadly, the following ranges are specified:  $15\text{ °C} \leq T \leq 25\text{ °C}$  and  $40\% \leq RH \leq 60\%$ .

#### 3.1 HYGROTHERMAL DATA

The hygrothermal data measured in the investigated rooms of the museum are shown in Table 2, Figures 3 and 4, for the entire monitoring period. The outdoor climate data were obtained from one of the nearest meteorological stations, installed in the Laboratory of Industrial Aerodynamics (LIA)<sup>†</sup> in Coimbra, less than 3 km away from the MCUC.

Table 2 presents a summary of the recorded data. As observed, during the winter period (December 2015 – March/April 2016), the average T values were below 15°C, reaching a minimum below 10°C in the Portugal Hall (PH). In contrast, during the last monitoring period, the highest T values were in both rooms much above the reference

<sup>†</sup> <https://www.wunderground.com/personal-weather-station/dashboard?ID=ICOIMBRA14#history>.

upper limits – both in terms of conservation of the exhibited objects and the visitors thermal comfort (ISO7730 2005), (CEN 2007).

**Table 2: Summary table of all registered values on the exhibition rooms**

Space	Period	Parameter	Maximum value	Average value (average + St dev)	Minimum value
Vandelli Hall (VH)	7 Jul – 7 Dec 2015	T (°C)	<b>26.4</b>	21.7 ± 3.5	<b>13.2</b>
		RH (%)	<b>71.3</b>	58.1 ± 2.4	53.8
	<b>7 Dec - 8 Mar 2016</b>	T (°C)	18.1	<b>13.3 ± 1.0</b>	<b>11.1</b>
		RH (%)	<b>77.6</b>	<b>67.5 ± 2.4</b>	52.0
	26 Jul – 7 Dec 2016	T (°C)	<b>29.3</b>	22.6 ± 4.2	<b>14.1</b>
		RH (%)	65.2	53.7 ± 2.3	50.1
Portugal Hall (PH)	7 Jul – 7 Dec 2015	T (°C)	<b>29.5</b>	21.3 ± 3.7	<b>11.2</b>
		RH (%)	<b>82.0</b>	<b>63.1 ± 6.5</b>	40.6
	<b>7 Dec - 28 Apr 2016</b>	T (°C)	22.8	<b>14.2 ± 2.1</b>	<b>9.2</b>
		RH (%)	<b>91.9</b>	<b>72.8 ± 6.9</b>	50.3
	26 Jul – 7 Dec 2016	T (°C)	<b>32.8</b>	21.4 ± 4.3	<b>11.4</b>
		RH (%)	<b>85.1</b>	61.8 ± 9.8	<b>30.1</b>

In addition to the reference range earlier specified, the ASHRAE guidelines and other international recommendations define acceptable ‘short-term fluctuations’. Herein interpreted as daily fluctuations, i.e. the differences between the minimum and maximum of the T (°C) and RH (%) data, namely 5 °C ( $\Delta T$ ) and 10 % ( $\Delta RH$ ). Data registered in the exhibition rooms were processed and daily fluctuations were calculated every 24 hours during the whole period of the monitoring campaign.

From the analysis of all measured data, it can be stated that both exhibition rooms respected this sub-criterion almost entirely:  $\Delta T \leq 5^\circ\text{C}/\text{day}$  and  $\Delta RH \leq 10 \%/ \text{day}$ . In fact, in the Vandelli’s Hall (VH) these were fulfilled (max  $\Delta T_{VH} = 4.1^\circ\text{C}$  and max  $\Delta RH_{PH} = 6.1 \%$ ), except on the 7<sup>th</sup> December 2015, when  $\Delta RH_{PH} = 19.4 \%$ . Data were collected from the data loggers on this day; authors believe the exceptionally high  $\Delta RH$  value was due to handling of the equipments.

Portugal Hall (PH) performed slightly worse, as confirmed in Figure 3:  $\Delta T \leq 5^\circ\text{C}/\text{day}$  was achieved in 97% of the monitored days and  $\Delta RH \leq 10 \%/ \text{day}$  during 72% of the time (max  $\Delta T_{PH} = 9.9^\circ\text{C}$  and max  $\Delta RH_{PH} = 41.4 \%$ ). The extreme values  $\Delta T_{PH} = 15.4^\circ\text{C}$  and  $\Delta RH_{PH} = 48 \%$  were registered on August 9<sup>th</sup> 2016, a day of very significant outdoor amplitudes (outdoor  $\Delta T = 15.4^\circ\text{C}$  and  $\Delta RH = 48 \%$ ).

Moreover, when looking at the average of all the values:  $T_{VH} = 20.0 \pm 5.1^\circ\text{C}$ ,  $RH_{VH} = 58.8 \pm 5.8 \%$  and  $T_{PH} = 18.9 \pm 4.8^\circ\text{C}$ ,  $RH_{PH} = 65.9 \pm 9.2 \%$ , though RH average is distanced from the recommended value (50 %), these do not seem to be totally inadequate.

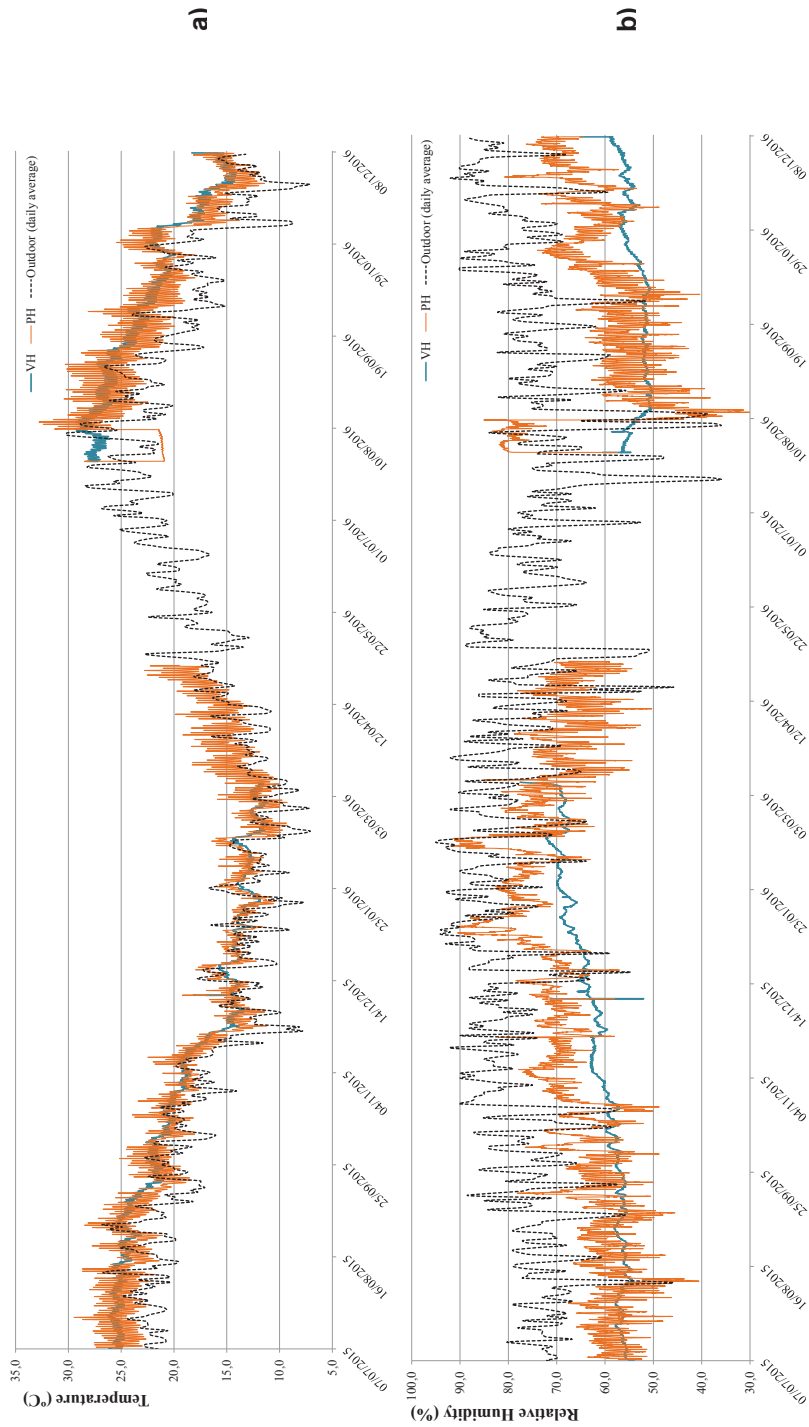


Figure 3: Time variations of (a) temperature and (b) relative humidity during the entire monitoring period

From the analysis of Fig. 3, other observations were drawn: (i) the Portugal Hall (PH) appears to be much more dependent on the outdoor conditions than the Vandelli Hall (VH), unveiling much stronger fluctuations of the monitored parameters; (ii) the registered relative humidity (RH) values were generically high (> 50%); (iii) RH values in the VH were generically lower than those registered in the PH; (iv) temperature (T) values were relatively satisfactory in both exhibition rooms during the 1<sup>st</sup> monitoring campaign, fitting the recommended interval (15-25°C), unlike in the 2<sup>nd</sup> and 3<sup>rd</sup> campaigns when the T values were, respectively, too low (<15°C) or too high (>25°C); (v) even when temperatures were above 25°C, RH values were broadly above 50%.

Complementing all the previous information, Fig. 4 allows ‘a more visual’ comparison between the exhibition rooms and between seasons/monitoring campaigns. Ideally, data recorded in both exhibition rooms should fit the intervals 15 – 25 °C (T) and 40 – 60 % (RH). As observed, either through the global data (on the right) or the data segmented by monitoring campaigns (on the left), both exhibition rooms present unsatisfying conditions regarding the conservation of the displayed heritage.

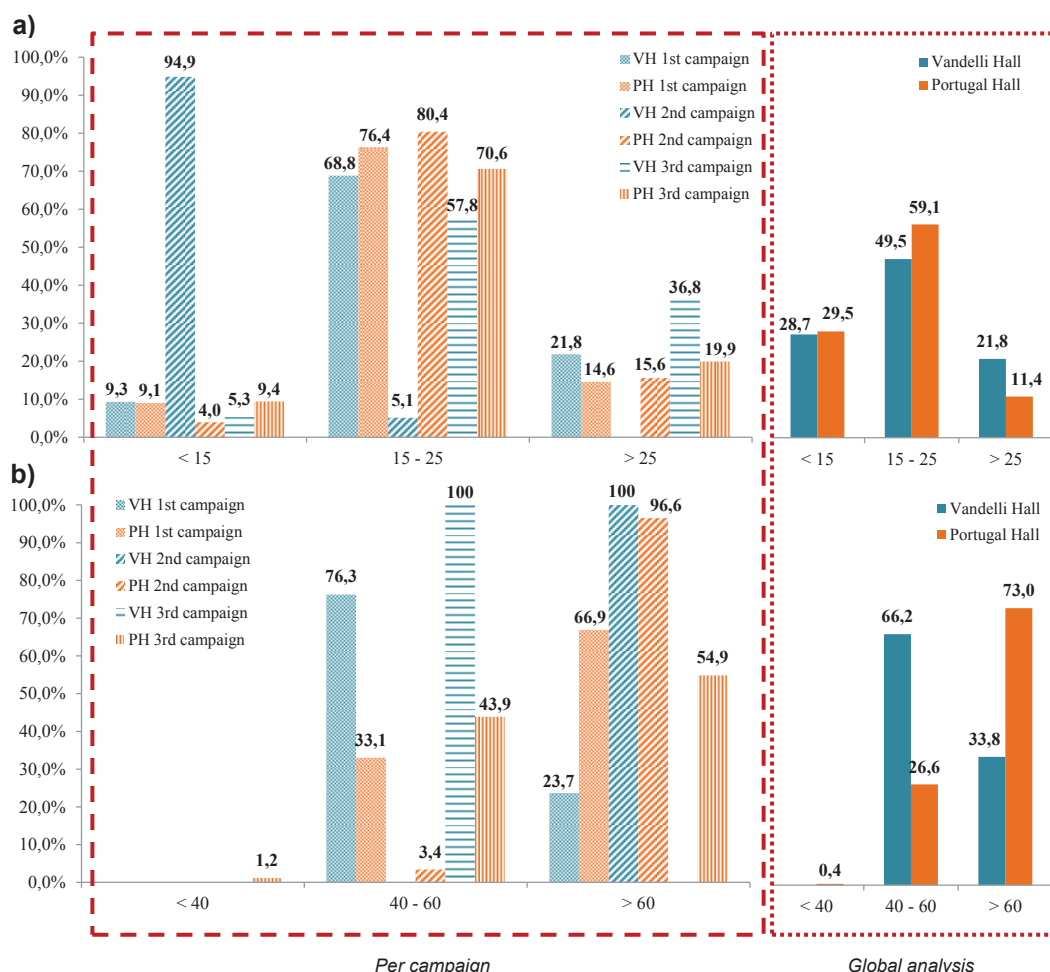


Figure 4: Distribution (%) of the monitored data according to the ASHRAE recommended intervals for conservation categorie B: (a) Temperature and (b) Relative Humidity. (VH - Vandelli Hall; PH - Portugal Hall)

In terms of temperature – Fig. 4.a), the Vandelli Hall (VH) with an east-oriented façade, performed the worst during the 2<sup>nd</sup> monitoring campaign (winter/early spring period), with too low T values. It is worth mentioning that this monitoring campaign was longer in PH, for which the spring values might help justifying the significant difference between data in both rooms. Generally, both rooms performed poorly: less than 60% of all data fitted the recommended range and, in the case of the VH, this value is actually below 50%.

Concerning the relative humidity, the VH performed better (Fig. 4.b), right side). The values registered in the Portugal Hall (PH) unveiled worrying marks – over 70% of the values were above 60% RH. It should be remarked that a peak value of RH = 91.9 % was registered in the 2<sup>nd</sup> monitoring period (Table 2). It is remarkable that during this campaign, T < 15°C more than 94% of the time, and still during this entire period, RH values were higher than 60%.

## 4 CONCLUSIONS

The existence of different materials in the same space makes it difficult to establish the ideal environment conditions (either temperature, relative humidity or illuminance levels). Low HR conditions may be suitable for metals but not for woods, for example. Appropriate levels should be adopted for the most sensitive component. Within the present study the hygrothermal air conditions were assessed according to ASHRAE guidelines for indoor conditions of museum collections (ASHRAE 2015).

The recorded data showed that the indoor hygrothermal air conditions of the exhibitions rooms in this Museum were strongly influenced by the outdoor environmental conditions. Moreover, either in terms of conservation and/or thermal comfort of the occupants, the registered values of temperature and relative humidity were many times out of the reference ranges (ASHRAE 2015). Both rooms performed worse in terms of relative humidity rather than temperature, though it is worse mentioning that in one of the exhibition rooms, air temperature surpassed 30 °C (ASHRAE 2015). The monitored peak relative humidity values clearly suggest the need to control the environment and to protect the exhibited collections.

It was observed that indoor hygrothermal air conditions achieved more extreme values on Portugal Hall than in Vandelli Hall (VH). Since these results can be due to the location of the sensor in VH – inside the display case, therefore further investigation on this issue is suggested. Notwithstanding the sensors location, in Portugal Hall the RH peak values were alarming and need attention.

Future research will also include other exhibition rooms in the museum and data analysis according other norms, such as EN 15757, e.g. analyses of seasonal cycles and the calculation of the central moving average (MA). Including a more cautions analysis, framing data to the ‘real season’ effects.

Lastly, the suggested environment protection should be explored through passive building measures, namely through the investigation of the integrity of the building envelope, e.g. wall and window inspection, window curtain protection, etc.

## ACKNOWLEDGEMENTS

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# THE ARCHIVE OF HISTORICAL MATERIALS IN DIGITAL ERA AS CULTURAL VALUE

**António Santos Silva<sup>1</sup>, Marluci Menezes<sup>2</sup>, Maria João Correia<sup>3</sup>**

<sup>1</sup> Laboratório Nacional de Engenharia Civil (LNEC), Av do Brasil 101, 1700-066 Lisboa, Portugal, e-mail: [ssilva@lnec.pt](mailto:ssilva@lnec.pt)

<sup>2</sup> Laboratório Nacional de Engenharia Civil (LNEC), Av do Brasil 101, 1700-066 Lisboa, Portugal, e-mail: [marluci@lnec.pt](mailto:marluci@lnec.pt)

<sup>3</sup> Laboratório Nacional de Engenharia Civil (LNEC), Av do Brasil 101, 1700-066 Lisboa, Portugal, e-mail: [mjmcorreia@lnec.pt](mailto:mjmcorreia@lnec.pt)

## ABSTRACT

Documenting and preserving materials data is important both to fulfill researcher's needs and to obtain social benefits concerning the related educational and historical value. The samples repository is also demanded as a basis for further understanding, innovation and development, besides the preservation of the materials historical value and information. The dissemination of those materials importance to non-specialized interested publics may also be enhanced by a database. DB-HERITAGE project (Database of building materials with historical and heritage interest) discusses in this paper the meaning of the archive as a cultural value that is established from the relationship between tangible (physical archive) and intangible (digital archive). Reflecting on the archive of historical materials as a heritage value, it is pointed out its significance for the valorization of the architectural heritage.

Keywords: Construction materials / Traditional techniques / Architectural heritage / Free ICT tools / Web-based free database

## 1 INTRODUCTION

Interventions on cultural property, particularly in the context of historical and architectural heritage, implies a knowledge of the constituent materials (e.g. stone, mortars, concretes, paints, ceramics, metals, wood) and of their conservation state, in order to provide recommendations on the conservation plan and on the materials and the techniques to be used.

However, information on a particular historic material, when available, is normally difficult to obtain, since it is disseminated through several institutions. For example, the Laboratório Nacional de Engenharia Civil (LNEC), and the Aveiro, Évora and Nova Universities have been coordinating a considerable number of projects not only related with the historical and technical survey of construction and on their long-term performance, but also on the techniques and interventions. Therefore, all these institutions have an unparalleled collection of information on physical, chemical and mechanical characterization of materials and on their forms of decay and conservation needs. Besides these institutions, other public institutions and universities, as well as construction and restoration companies, have a wealth of information that deserves to be collected and disseminated.

This is the context of DB-HERITAGE project (Database of building materials with historical and heritage interest), intended to build a reference sample collection or a

repository for historical materials. Besides it proposes to create an IT-tool to collect the related data on construction materials history, properties, and performance, assuming an intangibility representation, of such information.

This article presents an overview of the objectives of the DB-HERITAGE project, and introduces the different means that will be used to accomplish them. A reflection is made on the significance of the developed hybrid tools for the valorization of the Portuguese architectural heritage.

## **2 MAIN OBJECTIVES OF DB-HERITAGE PROJECT**

DB-HERITAGE Project is developing four areas of research, namely:

- General information on Portuguese building construction materials history, properties and performance
- Collection and characterization of historic building material samples;
- Collection of physical samples of historic building materials;
- Database tool on Portuguese historic building materials.

### **2.1 GENERAL INFORMATION ON PORTUGUESE BUILDING CONSTRUCTION MATERIALS HISTORY, PROPERTIES AND PERFORMANCE**

In the last decades there has been increasing global information on building materials composition and characteristics, as well on their deterioration and ageing mechanisms. The compilation of such information is of utmost importance due to researcher's needs, historic value and the legacy for future generations. Social and economic aspects will also be favored, namely by the improved awareness of the populations for their built heritage, enhancing attraction by the so-called cultural heritage tourism. This favors also the local employment, particularly in areas related to the use of traditional arts and materials, and contributing to the fixing of populations in more inland parts of the country.

The main objective is collecting information on building construction materials in Portugal, namely related with the constituents, production technologies and main raw materials sources. For the accomplishment of this objective, the compilation of data already available on partner's institutions, accompanied by the research published on papers, thesis, books and site references in all the country will be carried out. The results of this research should be uploaded on the upgraded database, in order to be shared and made entirely available. This work should also allow to obtain information on the performance of building materials in different contexts, namely in terms of their exposition, and whenever possible on conservation materials and practices.

### **2.2 COLLECTION AND CHARACTERIZATION OF HISTORIC BUILDING MATERIAL SAMPLES**

The collection of samples already available in the different partners (e.g. xylarium existing at LNEC, historic paintings sample collection at HERCULES Lab), including scattered material which should now be all reassembled, is being systematized and complemented with samples collected but not characterized from selected new case studies. These data should be gathered in order to give information on material and

constituents type, function, localization, exposition to particular environment, historic period, type of building, composition, physical and mechanical characteristics, etc. The predictable results should allow educational and scientific improvements on different disciplines related with cultural and architectural heritage preservation.

### **2.3 SAMPLES REPOSITORY OF HISTORIC BUILDING MATERIALS**

Besides the members of the project, other institutions and companies are expected to supply samples of historic building materials for the creation of a physical archive. These samples are being properly accommodated and classified, with a short synthesis of the information obtained during the sampling and on its main characteristics, and can be supplied for external institutions for further studies and comparisons. A substantial enlargement of the number of samples with different specimens from public and private entities is expected, including samples extracted from new case studies during the project duration. A built facility is being created on LNEC to collect these samples, which includes a storage area, a work area for organizing and processing, and a public area for unrestricted access.

### **2.4 DIGITAL ARCHIVE ON PORTUGUESE HISTORIC BUILDING MATERIALS-DB-HERITAGE DATABASE**

The results obtained are being archived on a free access web-based application, making use of the potential of information and communication technologies. This tool is being upgraded by the already available information obtained in precedent projects, namely FCT IMPROVE and the Atlantic Area DURATINET project, both related to the characterization and performance of building materials.

DB-HERITAGE project is using the previously developed web-based free tool by DURATINET project, DURATI database, which was designed for performance assessment and deterioration modelling of construction materials used on the built environment. The further development of this application is intended for DB-HERITAGE project effectively managing the repository of samples and related materials data providing for its systematization. In particular, DB-HERITAGE database should both provide for a customized interface with the end user and classify construction materials by type and function, addressing the historical background related data. Some of the database main fields comprise origin, use, chronology of interventions, properties, environmental exposure conditions, result of observations, and archive management details.

Efficiently and systematically organized materials and related information, properly collected and preserved, are valuable information for supporting research to prolong historic building materials life both by delaying deterioration and efficiently supporting their selection and use.

DB-HERITAGE database uses the web Django platform, being scalable, secure and expansible. This web-based tool only requires a browser to provide for all its functionalities, thus being accessible from any part with access to the network. It allows simultaneous multiple users as well as the easy migration of data. The associated users management system allows the definition of different access levels, from restrict to full access, for different user groups assuring the data confidentiality whenever necessary. This tool is expected to provide for a greater and more comprehensive access to historical materials data, which is usually inaccessible for the interested public, facilitating the dissemination of information.



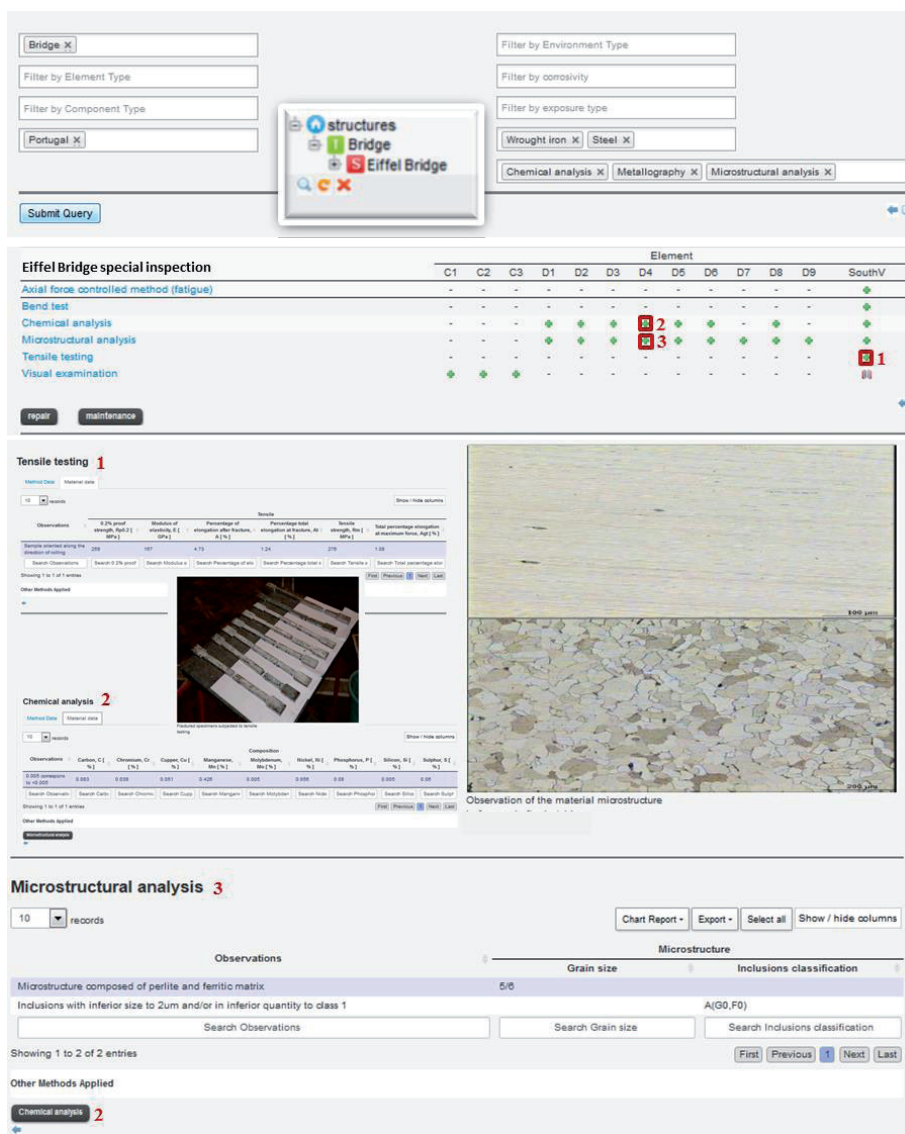


Figure 2: Different filters and ways of accessing data currently available in DB-HERITAGE database. Examples of test results in the case study complying with the selected criteria

### 3 CONCLUSIONS

DB-HERITAGE project is intended to function as a hybrid repository, since it integrates the two facets of heritage: first in a material perspective accomplishing the objective of a collection of physical samples of historic building materials; second as an immaterial (digital) facet, creating and sharing a database tool on Portuguese historic building materials characteristics and performance.

Both physical and digital repositories are intended to archive, organize, preserve and disseminate the architectural heritage, although in different complementing ways, thus

contributing to the preservation, dissemination of knowledge and facilitating the decision making process of interventions in architectural heritage.

The free and easily accessible data on historical materials is essential for the conservation and enhancement of heritage. This contribution is especially important when integrating the tangible and intangible aspects of heritage. In particular, the Portuguese built heritage case studies addressing both aspects give certain specificity to the data, increasing the cultural value of the DB-HERITAGE database.

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# METAMORPHOSIS. THE CORE OF THE AZULEJO TRADITION IN PORTUGAL

**Alexandre Nobre Pais**

Curator of Museu Nacional do Azulejo, Lisbon, Portugal, [apais@mnazulejo.dgpc.pt](mailto:apais@mnazulejo.dgpc.pt)

## ABSTRACT

Several values can be pointed to the use of *azulejos* in Portugal. Its durability associated with the fact that *azulejos* are used for more than 500 years. *Azulejos* change sometimes dramatically the architectural environment in the places where they are applied. The monumentality of its use that can be translated in the fact that we can have large architectures completely covered from walls to ceilings with *azulejos*.

But among the several aspects that value *azulejos* is the ability to reinvent itself and this can be one of the most important values we can attribute to them. In that regard *azulejos* in Portugal are a fascinating mix of tradition and innovation and it is from the dialogue of these seeming contradictory concepts that they have blossom.

These are the thoughts we intend to debate with this presentation and among the several aspects that give meaning to the use of *azulejos* in Portugal we want to place the importance of the value of this dialogue between tradition and innovation as one of the key elements to understand what lies beneath this identity form of art.

Keywords: Azulejo / Intangible patrimony / Tradition / Innovation

## 1 INTRODUCTION

One of the main aspects which characterize tradition is its sense of immutability. The repetition of procedures or in some cases decorations it's the mark that usually is at the core of something that is traditional. In that regard the *azulejos* tradition in Portugal is another thing entirely. *Azulejos* can materialize the conceptual meaning of tradition, from the Latin *traditio*, which means "to deliver" or "to pass through". *Azulejos* by their use almost uninterrupted since the 16<sup>th</sup> century have this sense of passing traditions from one generation to the next giving in that way a sense of continuity to this cultural trait.

But in the core of the use of *azulejos* in Portugal is another value, innovation. Innovation is the ability to modify an ancient custom creating something new and in that sense breaking tradition and the blind and sometimes senseless continuity of procedures and aesthetics. This is another aspect we can associate to *azulejos* in Portugal, the ability of reinvention, the innovative way it has found new forms of adjusting to the needs of the ever changing times. This adjustment can be seen in the *azulejos* as a support of the shifting fashions and taste but also in the ways that were discovered to apply *azulejos*, from the interior of private buildings to the public areas of the ever increasing Portuguese cities.



## 2 WHEN THE TRADITION IS INNOVATION

For more than five centuries *azulejos* have been used in palaces, churches, convents even common houses or more recently in train and metro stations, airports or as a statement in urban art. In that sense *azulejos* can be viewed as something new, with the ability of reinvention. These metamorphoses characterize the use of *azulejos* in Portugal and create an unusual and almost contradictory concept and re conciliate what can be viewed as tradition and innovation.



Figure 1: São Bento Train station, Jorge Colaço, Oporto, 1905-1906

If we want to define in a somewhat superficial way the use of *azulejos* in Portugal we can say that in the 16<sup>th</sup> century it was the time of discovery and feel the potential of this material. The 17<sup>th</sup> century was marked by the huge number of patterns whose solutions even today are being rediscovered. The 18<sup>th</sup> century was the time of figurative art, based in mythology, religious narratives, daily life, composing a fascinating world of make belief.

With the 19<sup>th</sup> century *azulejos* came to the street, it conquered the façades and changed dramatically the way the Portuguese conceived their cities. The 20<sup>th</sup> century was the time of the artist when all the specific aesthetics that are the mark of the individual were transported to *azulejos* and in that regard it gained the new status of Public or in some cases Urban Art. We don't know what will be the contribution of the 21<sup>st</sup> century. We can sense some paths, but it's too soon to realize what will be the main focus of this "newborn" century.



Figure 2: Azulejos panel, Carlos Botelho, Avenida Infante Santo, Lisbon, 1959



Figure 3: Azulejos panel, Eduardo Nery, Avenida Infante Santo, Lisbon, 2000

What is almost impossible to explain is the way *azulejos* could re conciliate the two concepts that are almost antagonists, tradition and innovation.

The use of *azulejos* in Portugal has a distinctive aspect that is related with the definition that architectures imprint in its use. This can be said even when *azulejos* were not produced in Portugal but commissioned for the architectures in the country. What is underneath this concept is the fact that we can define and identify specific purposes in terms of speech even when the architectures are changed, because many times the previous memory of its use can be identified by the *azulejos* that remain in the space. In that regard *azulejos* in Portugal are dependent of the architecture but also the architecture achieves a different level when seen through the *azulejos* that are used in it. This is a phenomenon of mutual benefice because without *azulejos* many times the architecture is plain and uninteresting and through this ceramic coat a new level of meaning is achieved by the buildings.

### 3 FINAL NOTES

In Portugal *azulejos* are far more than a simple decorative support. Many times its use intends to make the viewer aware of ideas, concepts, purposes that can be materialized in the space or sensed in the surrounding.



**Figure 4: Cruise Terminal of Leixões, Luís Pedro Silva (arch.), Matosinhos, 2016**

As a skin of the architecture *azulejos* in Portugal are distinctive in terms of time and geographical space. And as any organic body *azulejos* are always changing, discovering new potentialities, shifting in a perpetual metamorphosis. In that sense the only immutable aspect of the *azulejos* tradition in Portugal is the durability of its use and the inventive way it discovers new and fresh restarts.

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