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HISTORICAL ANALYSIS AND GENERAL STATE OF CONSERVATION OF THE MARIETA TEIXEIRA DE CARVALHO MANSION, SÃO PAULO

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Abstract: Casarão Marieta Teixeira de Carvalho, located in São Paulo, was built between 1878 and 1884. In addition to its historical importance, the residence represents a landmark of architectural innovations in Brazil at the end of the 19th century. The objective of this work is to present a historical survey and the listing process, as well as identify the elements for carrying out the damage diagnosis necessary to guide the intervention on the property's facade. Much of the restoration inside the property was carried out in 2005 and there was a diagnosis carried out at the time. The facade is the element that is most worn out due to years of exposure to the elements and vandalism, the main causes of the damage found. In this study, the characteristics of the facade were surveyed and pathologies were identified to indicate appropriate methods for intervention. To this end, information was researched about the history of the property and its listing process, in addition to photographic surveys to produce a planned image of the facade and laboratory tests to identify the plaster mortar. From these elements, a damage map was produced to indicate the pathologies found.

Keywords: mapping of damage, restoration, heritage, history.

INTRODUCTION

The object of this article is the mansion belonging to the family of Marieta Teixeira de Carvalho, located on Rua Florêncio de Abreu, in the Sé neighborhood in São Paulo, the capital. The residence was built between 1878 and 1884, at the request of the first owner Colonel Carlos Teixeira, merchant and politician, exponent of the São Paulo bourgeoisie in the final sighs of the empire in Brazil.

In addition to the historical importance due to the antiquity of its construction, the last with French mud in the city, the residence

also marks architectural innovations that arrived in Brazil at that time. It was one of the first buildings in the capital of São Paulo to be built using masonry, a novelty for civil construction at the end of that century. The mansion represented the preservation of the Portuguese aristocracy in Brazil and the rise of a Brazilian bourgeoisie, more than a century after the country's independence. Built at the end of the 19th century, the residence preserves the modern architecture of the time and maintains relevant characteristics of its construction (Figure 1).



Figure 1: Perspective view of the Palace with the side gate leading to the garden and garage

The objective of this work is to present a historical survey and the listing process, as well as identify the elements for carrying out a damage diagnosis, which will justify carrying out intervention on the facade of the property. The experiment involves diagnosing the state of conservation of the mansion, former residence of Marieta Teixeira de Carvalho. In this investigation, the history of the property, the materials and its conservation conditions were surveyed and the pathologies were identified for a subsequent recommendation of the appropriate methods for an intervention to restore the facade elements, such as the

element that has not yet undergone any intervention. To this end, information was researched about the property and its listing process, a photographic survey was carried out and some laboratory tests were carried out on the mortar used to plaster the facade. As a result, in the end, a damage map that identifies the pathologies found in the facade elements was produced.

IDENTIFICATION AND CHARACTERIZATION OF THE PROPERTY

HISTORIC

In the 19th century, the coffee economy still prevailed in Brazil, enriching landowners, mainly in the southeast region, through the enslavement of black men and women brought by force from the African continent. Brazil was the last country in Latin America to abolish slavery and the place that received the most enslaved people [1]. The formal abolition of slavery dates back to 1888, after incessant struggles by black movements. This period is represented in the space of the slave quarters in the Teixeira de Carvalho building, built ten years before abolition. Originally, the small space measured one and a half meters high, demonstrating the difficulty in moving around and the unsanitary conditions in which enslaved people lived at the time.

The family's wealth was demonstrated by the grandeur of the construction, the explicit demonstration of the ownership of slaves and also by the richness of the decorations and collection found inside the house. The furniture and some pieces dated back to the 18th century, brought from Europe to decorate the property. After the death of Carlos Teixeira de Carvalho, Marieta, his heir, took great care of the residence. This care is recognized in the text by Carlos Lemos, architect and technical director of the Council for the Defense of

the Historical, Archaeological, Artistic and Tourist Heritage of the State of São Paulo (CONDEPHAAT), which attests to the rarity of the pieces: "rare because only the whim of a single daughter determined to keep her deceased father's house intact" [2]. In this section, safe guarding the historical period, we observed a stereotypical gender conception that the work of caring for the home and items of historical value would be related to the fact that Marieta was woman and single.

Marieta died in 1975 at the age of 92, leaving her assets to legatees established in her will, as she had no children [3]. The house, despite still carrying his name today, no longer belonged to him at the time of his death. The residence is located close to the São Bento Monastery and with the modification of the Santa Efigênia Viaduct restricting the passage to pedestrians only, access to the entrance was made difficult, no longer being able to receive cars and cargo. Then, still in 1968, Marieta sold part of her garden and driveway to the Monastery and, later, donated the residence to it. Still, she lived there until her death through an exchange contract with the Benedictine Order.

Soon after his death, recognizing the historical value of the property and its collection, a request was made by the Council for the Defense of Historical, Archaeological, Artistic and Tourist Heritage of São Paulo (CONDEPHAAT) for the property to be listed, thus making it impossible, alterations or restorations to the building without authorization from the Council.

The former residence of the Teixeira de Carvalho family is one of the most important old residential properties to survive in the center of the city of São Paulo, however, it is also a great example of the disregard for São Paulo's historical heritage. The choice of this property as the object of this work was based, among other factors, on its historical

importance and current state of neglect and public abandonment.

THE TIPPING PROCESS

The technical director of CONDEPHAAT, Carlos Lemos, presented the request to list Marieta Teixeira de Carvalho's house on May 19, 1975, through representation nº 1/75 – STCR, due to the importance of the property for the history of São Paulo. In the request for listing, Lemos refers to the importance of his collection and the house itself as a landmark of an era:

There is furniture still from the first Empire and some pieces from the 18th century, such as a superb inlaid coffee table with bronze inlays, and there is, what is important, typical furniture from the end of the century, accompanied by paintings, carpets, decorative objects, showcases and porcelain for domestic use, constituting, as a whole, a rare display characteristic of a period [2].

The objects contained in the house, therefore, characterized the wealth not only of the family, but also of the historical context experienced at the time. During the listing process, all property assets and objects were left under the responsibility of the State and could not be modified. Marieta Teixeira Carvalho's inventory of objects listed more than three hundred objects, including jewelry, coins and others that would be auctioned in favor of the heirs established in her will. According to a letter sent to the executive director of CONDEPHAAT at the time, José Geraldo Nogueira Coutinho, by Marieta's executor and executor, Geraldo de Camargo Vidigal, these objects, coins and jewelry could be auctioned without conflicting with the listing process of the aforementioned property. According to the document sent to the executive director, previous attempts to auction Marieta's assets had already taken place, but were judicially prevented by CONDEPHAAT on the grounds that these

objects constituted historical heritage. On May 25, 1977, the president of CONDEPHAAT, Nestor Goulart Reis Filho, communicated via letter the approval by the Council for the listing of the property, as well as suggesting to the State the expropriation and acquisition of its belongings. The approval decided by the Council ensures "the preservation of the property until the authority's final decision, and consequently any change in the state of things that could destroy, demolish, mutilate or remove them from the original environment without the prior authorization from CONDEPHAAT" [4].

For the listing process, it was essential that the house's collection was intact from the period in which Marieta carefully maintained it. However, in 1976, some objects from the residence were stolen, damaging the historical value of the goods and the property. In 1977, a conflict began between the heirs and CONDEPHAAT regarding the property in the residence's collection. This conflict between the Council and the legatees followed with the refusal of the inventor and his lawyer. As stated in the process, Vidigal stated that the house had no belongings, as these were inherited by people defined in the will.

According to Cassio da Costa Carvalho, Vidigal's lawyer at the time, the listing process did not even exist legally, so it was not up to the Council to appropriate the property's belongings. According to Federal Decree Law No. 25, of November 30, 1937, which deals with the protection of national historical and artistic heritage, "the listing of assets, as referred to in art. 6 of this law, will be considered provisional or definitive, depending on whether the respective process is initiated by the notification or concluded by the registration of the referred assets in the competent Tombo Book" [4]. Therefore, the Council could not appropriate the assets, nor even prevent their auction.

To the possible heirs of Marieta Teixeira de Carvalho was notified in a letter dated August 3, 1977, the possibility of contesting the listing, as well as the inventory with all the jewelry, coins and other objects that would be distributed among the heirs and excluded from the listing. This way, only at this moment would the listing process actually begin before the law. The mishaps that occurred during the listing process, the legatees' objections, CONDEPHAAT's refusals of these objections and the Council's apologies for the poor drafting or even lack of understanding regarding some legal issues of listing resulted in a four hundred- and forty-nine-page process.

In this process, the Monastery of São Bento, then owner of the property, contested the listing with some reservations regarding the property. According to reports, on the date of her death, the house no longer belonged to Marieta Teixeira de Carvalho, but rather to the Monastery, which acquired it in 1968. Furthermore, the Monastery was against the listing as it would prevent the modification of the building under the its expansion interests. Other legatees also opposed the listing of their belongings, with the justification that they were inherited by will and, therefore, belonged to them and not to the house. The Monastery's objection was not met, as it did not respect procedural deadlines.

In the meantime, in April 1977, Marieta's assets bequeathed to her heirs by will were auctioned, irretrievably ruining the collection, since the State did not take advantage of its right as preferential buyer of the objects. Even so, the historical value of the property remains due to its architectural importance that marks the constructions of the 19th century. Finally, on November 3, 1980, the then Extraordinary Secretary of Culture, Antônio Henrique Cunha Bueno, overturned the Marieta Teixeira de Carvalho House. Although its

great relevance to São Paulo's 19th century architecture, preserved in the 20th century, is recognized, the property is currently in a state of deterioration and abandonment.

THE RESTORATION AND CURRENT STATE OF CONSERVATION

After the listing, Marieta's house was closed and unable to be changed for more than 20 years. While Marieta has kept the residence intact since her father's death, this heritage has deteriorated significantly with the modification of the collection auctioned by her heirs and then with the deterioration of the building subject to the effects of time, bad weather and lack of maintenance. The listing, despite being extremely important for the preservation of São Paulo's historical memory, did not initially contribute to protecting the property from the slow and continuous process of degradation.

The lack of resources for restoration led to the closure of the property for more than two decades after listing. Only in 2005 did the fundraising process begin through the Rouanet Law to encourage culture and sponsorship by Petrobras [3]. The restoration work was signed by Affonso Risi Júnior with a completion date scheduled for 2007, so that, in 2008, it could be transformed into a cultural center linked to the São Bento Monastery. The proposal was that the space would host concerts, recitals and exhibitions.

During the restoration work, it was necessary to excavate the old slave quarters to enable movement within the room that was previously only one and a half meters high, exposing the infrastructure below the walls. Furthermore, paintings of colonial-style medallions were found under five layers of paint on the interior walls of the mansion. As Nilva Calixto, an artist specializing in restoration, states, "restoration is like archaeology, but vertically, you 'excavate'

the wall to discover all the decorations that the building has undergone” [5]. It is worth noting that the restoration work was only possible through references sought by the architect Olívia Hiss, in charge of carrying out the work. In this process, old photographs helped in the process of restoring the missing parts of the decoration.

Unfortunately, due to lack of resources, the restoration work was discontinued, at a point where the entire upper floor had not been restored, as well as the exterior part that still required painting and finishing. The property characterized by Carlos Lemos as the landmark of an era left behind, today, suffers the results of public neglect regarding the history of the State of São Paulo. In effect, all the luxury of centuries, the product of an economy on the rise through coffee, built with the arduous forced labor of black men and women, is relegated to the oblivion and indifference of the public authorities. The restoration of the facade is suggested as the element that has not yet been indicated for recovery, as the upper floor has not been completed but has already had a diagnosis made and intervention initiated.

DESCRIPTION OF THE BUILDING AND CONSTRUCTION SYSTEM

The palace is an important part of the history of the city of São Paulo due to the innovations at the time, using brick masonry in its construction, and is therefore an architectural icon. Access is no longer possible through the front facade, but through a side setback, where there is also the driveway and a garden built by an Italian builder, today completely uncharacterized. On the facade, the architecture is marked by firm and refined lines, the hardware on the window and door grilles remains the same, but is in a serious state of deterioration, corroded and degraded by the action of time and lack of maintenance.

The building is marked by graffiti and is lost in the cluttered Center of São Paulo, once imposing but now dirty and neglected. The elegant building competes for space with shops, bars and parking lots. On its side, there are hanging products sold by neighboring stores.

In the basement, which housed the old slave quarters, you can see sections of the mortared stone infrastructure, bricks that emerge from the floor and are overlapped by the walls, also made of baked bricks. As it was the first space to undergo the intervention process, it is in excellent condition, despite the presence of rats and dirt on the concrete tile floor, which is in very good condition (Figure 2).



Figure 2: Underground where we see the use of brick in the infrastructure and base of the walls

The roof, with a structured wooden structure and French tiles, appears to have also undergone an intervention, as it is covered with a blanket and appears to be in a very good state of conservation, as we can see in Figure 3.



Figure 3: View of the roof in good condition and detail of the blanket placed below it

The front facade, which is the main object of study in this work, still retains the beauty and grandeur of its original construction, but shows serious wear caused mainly by lack of maintenance. The plaster is peeling off in several parts and you can see the exposed bricks. It was from this location that the sample was taken to test the mortar used to lay the mortar and perform the plastering (Figure 4).



Figure 4: Facade elements where we notice plaster detachment

In general, the facade is reasonably preserved, and the tests presented in section 4 prove that there are no serious agents causing wear and tear on its elements. Therefore, bad weather and time are the main agents identified, in addition to the lack of maintenance of the property as a whole.

DAMAGE MAPPING

Damage mapping is a process of important relevance for defining techniques, materials and forms of intervention in a monument or historic building, which therefore precedes the development of a restoration project. Damage mapping can be understood as follows: “Its development consists of the careful recording of pathologies/changes through graphic symbols that represent the different categories and levels of degradation identified” [6].

It is from this instrument that it is possible to identify and locate faults and the condition of the property that will undergo any intervention:

[...] a Damage Map results in an important illustrated document in that it can group a large amount of information regarding the quantity, quality and intensity of damage to the materials and structures of these constructions. Therefore, from an operational point of view, damage maps are effective instruments to help both in planning restoration/conservation design guidelines (cleaning, consolidation or even controlled replacement of materials or extremely degraded parts) and budget forecasts, but they can also instruct preventive monitoring actions to ensure the good conservation of artifacts over time. [6]

Therefore, mapping is important for organizing the information and observations collected and can determine the final quality of the data collection and property diagnosis work.

DAMAGE MAP

The complete image of the facade, in a vertical plane, was edited using Photoshop, and a photographic mosaic of the facade was produced for the reliable identification of the facade elements and damage found on it, as can be seen in Figure 5 below:



Figure 5: Photographic mosaic of the mansion's facade for the production of the Damage Map



Figure 6: Facade representation of the damage map

To execute the Damage Map, graphic coding was carried out in detail in Table 1, characterizing the pathologies and damage found on the main facade of the Palace, and, further down, in Figure 6, the representation of the position of the damage therein.

LABORATORY TESTS AND ANALYZES

The sample used for the tests was taken from part of the plaster on the main facade of the property. This was the only sample used, mainly due to the difficulty in obtaining some material for the tests due to the property being listed. Three tests were carried out on the coating sample: simple mortar test, qualitative salt test; granulometry after acid attack and removal of fines. All tests were carried out in the NTPR laboratory, at the Polytechnic School of ``Universidade Federal da Bahia``, under the coordination of the responsible chemist Allard Amaral.

DAMAGE MAP

In the simple mortar test to determine the probable trace, standard procedures were used, with a diluted hydrochloric acid solution in a proportion of 1:4 in the weighed sample. The effervescence observed was average, only 3 crosses and the color of the solution was greenish brown. It was also found that with the addition of sulfate to the solution resulting from filtration, it became cloudy,








DAMAGE / PATHOLOGY	GRAPHIC REPRESENTATION OF THE DAMAGE	DAMAGE CODE
Loss of elements / Plaster detachment		D01
Material base /brick wear		D02
Corrosion/rust		D03
Cracks and fissures		D04
Stain/Mold		D05
Graphite		D06
Vegetation		D07

Table 1: Descriptive table of the damages found and their symbols

which indicates the presence of cement in the sample.

The color analysis of the fines, according to Munsell's table, was HUE 10YR 8/1 WHITE.

To weigh the elements, a 4-digit digital scale was used and the results were recorded in a table to calculate and determine the probable trace of the mortar used on the facade. The result can be seen in Table 1 below:

QUALITATIVE TEST OF SOLUBLE SALTS

The qualitative test for soluble salts was carried out on a sample that was ground in a porcelain mortar with a pestle, dried in an oven at 75° for 24 hours and weighed with approximately 10g on an analytical balance with two decimal places.

The first test was to check the presence of nitrate. Visual reading demonstrated that there was no change in the portion of the solution to the blue color, demonstrating that there was no presence of nitrate in the sample.

The second test was for chloride detection. The reading was done by observing the turbidity of the solution, which would demonstrate the presence of salts in the sample. A slight white turbidity was observed in the sample, indicating a small presence of chloride.

In the third test, which would indicate the presence of sulfate, the result was given by observing whether or not the sample was turbid, and the sample became turbid, demonstrating a reasonable presence of sulfate.

Below, see Table 2 with the results of qualitative tests of soluble salts present in the sample studied:

SALTS	TEST SAMPLE	OBSERVATION
NITRATE	-	No presence of organic waste
CHLORIDE	+	Small presence of saline aerosol
SULFATE	++	Presence of cement

Table 2: Result of qualitative tests for soluble salts.

GRANULOMETRY AFTER ACID ATTACK AND FINES REMOVAL

The test to determine the particle size of the sample was carried out with the coarse residue resulting from the simple mortar test. For this purpose, a set of sieves numbered 16, 35, 60, 100, 200 and deep was used. After the mechanical sieving process, all samples were weighed in their respective sieve and the weight of each one was subtracted to determine the final weight of each fraction of the sieved samples. The result of the weighing fractions can be seen in Table 3 below and its granulometric curve in Figure 12 below:

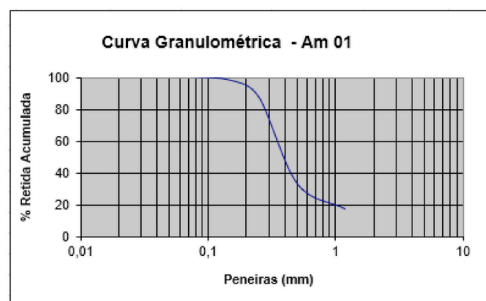


Figure 12: Particle size curve of the studied aggregate.

DISCUSSION AND FINAL CONSIDERATIONS

The sample used for the tests was taken from part of the plaster on the main facade of the property. This was the only sample used mainly due to the difficulty of obtaining some material for the tests due to the property being listed.

It was found, after all test procedures completed, that the mortar sample collected

FINES (Clay and/or Silt)	1	2	X
Filter paper weight	1,0820	1,0661	
Paper weight+waste	1,7365	1,6878	
Weight of fines found	0,6545	0,6217	
% of total mass	6,1212	6,1565	6,14
GORSSOS (sand)	1	2	X
Weight of the beaker	59,0191	74,8985	
Weight of beaker+sample	69,7114	84,9968	
Sample weight	10,6923	10,0983	
Weight of beaker+sample	65,9290	81,4094	
Weight of sand found	6,9099	6,5109	
% of total mass	64,6250	64,4752	64,55
LINK (Soluble residue)	1	2	X
%L=100-(%F+%G)	29,2538	29,6383	29,31
Carbonate weight	3,1279	2,9657	
Weight of the hydroxide	2,3146	2,1946	
DASH MORE LIKELY	1	2	X
Lime: Clay: Sand	1,00 : 0,28 : 2,99	1,00 : 0,28 : 2,97	1,00 : 0,28 : 2,98
SAMPLE			MORTAR
% FINES (Clay and silt)			6,14
% COARSE (Sand)			64,55
% BINDER (Soluble residue)			29,31
PROBABLE TRACE (In bulk) (Binder: Clay and silt: Sand)			1,00 : 0,28 : 2,98

Table 1: Result of the probable mass trace found in the samples, after all necessary tests and weighing.

SIEVE N	DIM. (mm)	PESO (g)	SIEVE + SAMPLE (g)	SAMPLE (g)	% WITH DRAWAL	% SHOT ACCUMULATED
16	1,18	98,37	100,64	2,27	16,98	17
35	0,5	88,06	90,17	2,11	15,78	33
60	0,25	85,93	93,21	7,28	54,45	87
100	0,15	83,76	85,19	1,43	10,70	98
200	0,075	83,66	83,98	0,29	2,17	100
>200		65,96	65,98	0,02	0,15	100

Table 3: Result of the fractions found in the aggregate after sieving.

from the facade of the property under study presented a reading related to its average composition of 6.14% fine, 64.55% coarse and 29.31 % binder. Therefore, the probable mass average mortar ratio is 1.00:0.28:2.98 lime, clay, sand, indicating an almost standard 1:3 lime sand ratio. The small proportion of clay found, 0.28g, probably comes from dirt in the sand.

In the qualitative tests for soluble salts,

the absence of traces of nitrate was verified, which is probably due to the fact that the sample was taken from the upper part of the facade and there were no traces of urine nor was it close to bathrooms. The presence of chloride indicates that there is a small amount of salts in the sample, which is generally due to the presence of saline aerosol when it is a result of the proximity to the sea, which is not the case. In the sulfate test, the presence

of cement was detected in the mortar sample, which demonstrates the use of this material as a binder.

The granulometric analysis characterizes the aggregate as fine, medium or coarse sand, as it corresponds to the largest amount of material retained in the number 60 sieve, which is 54.45% of the total coarse sand.

The color of the fines is in the line related to whites, which, according to the Munsell Table (HUE 10YR 8/1 WHITE), indicates that the clay found is probably kaolinite due to its light color.

Oliveira [7] cites as a premise for conservation and restoration work the ideas of the Italian architect and theorist Leon Batista Alberti that a thorough analysis of buildings, their defects and the way to repair them is necessary, reminding us of the importance the durability of building structures and materials, especially when subjected to weathering. The same author also instructs that “this represents a very current perspective, which has guided the most modern investigations into the argument”. Therefore, it is essential to know in order to make a responsible intervention.

The beauty of the work is unquestionable and so is its historical value. Knowing the history of the building and the paths taken to recognize its value and list it was essential to understand the importance of its preservation.

The results of the tests indicate that the materials used in the work were correctly applied, demonstrating their resistance despite so many years exposed to the elements and vandalism, the main causes of the damage found. The damage map presented guides the real needs for intervention on the facade of the property, for its correct recovery and conservation.

Despite institutional and financial limitations, which lead to poor management of the property and the consequent state of degradation of the property, it would be necessary to urgently complete the restoration of the mansion. The structural problems of the foundations and roofs have already been resolved, even a large part of the interior has already been restored, it remains to be completed. The facade, which is the property's postcard, also needs urgent intervention, and this work demonstrates its need and importance.

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