III.01
Rui Barbosa Museum’s Architectural Surfaces in Rio de Janeiro: Reflections and Planning Issues

Claudia S. Rodrigues de Carvalho¹ and Maria Isabel Kanan²

¹ Fundação Casa de Rui Barbosa, Ministry of Culture, Brazil, crcarvalho@rb.gov.br
² Independent Architect, Brazil, isabelkanan@yahoo.com.br

Abstract The challenges for the conservation of historic surfaces at the Casa de Rui Barbosa Museum, a building from the 19th century that has been greatly re-plastered with cement in the nineteen-seventies, is presented in this paper. Furthermore, within the Brazilian conservation field, problematic issues concerning the conservation of architectural surfaces are discussed as well as the development of a strategic plan, involving research, experimentation, training and education. In its pre-investigation approach, this paper presents the goals of the plan, emphasizing the importance of bridging the gap between theoretical, technical and practical attitudes towards the traditions within heritage conservation of establishing a compromise to maintain authenticity and integrity without accelerating decay; of developing compatible materials and techniques, developing the skills of builders and craftspeople and of developing building conservation techniques to remove damaged, deteriorated, contaminated and incompatible areas of plaster, among other specific issues in the framework of sustainable heritage preservation.

1 Introduction

The Casa de Rui Barbosa Museum in Rio de Janeiro is a national monument built in 1849. Rui Barbosa was a prominent lawyer, writer and statesman, active at the end of the 19th century and the beginning of the 20th century. In 1930, Rui Barbosa’s house became the first historic house museum in Brazil, with a varied collection including a precious library with books on law, humanities and culture.

Amongst the activities taking place at the Museum, preventive conservation strategies are being developed for better conservation of the building and its collections: including the installation of an alternative climate control system in
the library to provide a suitable preservation environment for the collection and comfort for visitors.

Since its architectural conception almost two centuries ago, the building has been changed by historical use, alteration, deterioration, evolution and intervention, mainly in the 1970’s. During this period, the building underwent interventions which significantly altered the external surface characteristics and properties due to introduction of extended areas of cement. Research is being developed to clarify the extent of the changes that have resulted from these alterations; such changes include variations in the paint colours and surface details, all of which are apparent when compared to former images of the building.

Conservation work, involving the use of lime in one of the building’s facades, confirmed the need, in Brazil, for an increase in the quality of the practical execution, contracts and management of such sites to guarantee that conservation is based on correct principles and guidelines (as discussed by Kanan [1]). This paper presents a reflection upon the issues of the conservation of the historic surfaces of the Casa de Rui Barbosa Museum and the planning steps towards the research of, and the development of, a strategic plan for research, experimentation, training and education within the field of Brazilian conservation.

Fig. 1 Casa de Rui Barbosa Museum in Rio de Janeiro.
2 Reflections on conservation and restoration: issues of historic surfaces

The conceptual framework for the conservation and restoration of the surfaces of Casa de Rui Barbosa Museum is based on the perspective of current general principles that sustain the conservation and restoration of the building’s heritage, by maintaining its authenticity and integrity with a focus on the technical and aesthetic requirements and properties of the building and its surfaces. [2]

Although it is not clear for many professionals, managers and owners of cultural heritage; mortars and plasters play an important role in not only conservation but also in the determination of the significance of the cultural built heritage. Currently, a lot of attention is being dedicated to such studies. The importance of the proper conservation and restoration of architectural surfaces relies mostly in the following:

- they give a historic cultural appearance and identity to a building.
- they present an aesthetic function and reflect the colour, texture, finish and style of a period.
- they provide evidence of techniques, materials, cultural practices, etc.
- they protect the building envelope against physical and environmental forces.

The understandings of these plural aspects make the conservation of these surfaces a real and practical restoration issue, which can not be considered only as ordinary maintenance. In this sense, conservation must be conducted using the established principles of the field because such action involves both the form and fabric of a building which therefore requires historical research, formal analyses and technical knowledge. Furthermore, these works can’t be developed as an external layer treatment, in a formal sense, but should consider the architectural object as a whole, with its functional, aesthetic and structural complexity.

Relying on today’s conservation principles, the action taken on architectural historical surfaces can have two main approaches, the first, as suggested by Carbonara [3]: is when minimal intervention is possible to consolidate the plaster and stabilize the painting, keeping the sense of passed time. The second is related to a situation where it is impossible to avoid surface renovation. In this case the solution must be seen as an addition, based on critical judgment and technical analyses, developed to preserve the aesthetic and historical values of a building. Such a solution must not be a retrospective falsification, and must bear in mind technical compatibility and the ability for its removal in the future.

3 Architectural surface research at Casa de Rui Barbosa

Since its architectural conception almost two centuries ago, the building has changed mainly due to intervention actions in the nineteen-seventies. In order to
investigate the problems and to establish principles and procedures for the house’s surface conservation, architectural surface research was implemented in two stages: one theoretical and the other more practical. The following steps illustrate what has been done so far:

### 3.1 Theoretical/technical approach:

- An architectural and historical survey to consolidate the understanding of the place in relation to its original concept and the changes that have occurred throughout the previous two centuries.
- An architectural analysis and critical assessment of the significance of the heritage.
- Conservation assessment and mapping of the deterioration problems.

![Fig. 2 The deterioration of cement plaster at Casa de Rui Barbosa Museum](image)

![Fig. 3 The deterioration of cement plaster at Rui Barbosa’s House](image)
3.2 **Practical approach – the evaluation process**

In 2008 the facades of a part of the built complex (a small pavilion and a former stable) were conserved using lime plaster to replace cements which had caused an accelerated rate of deterioration. The results exemplify the problematic issues of surface conservation.

Soon after the end of the works the surfaces presented spots in the paintings and renders became detached; large areas were also affected by salt efflorescence. The first analyses were restricted to a visual evaluation of the surfaces and to the procedures used in the repair, the results of which showed the need for a more detailed specification and stronger field control. The problems were related to high humidity, the use of cement in the repairs and the alteration of the traditional characteristics of the building. Further analysis and a deep understanding of the process as a whole are required to better understand the decay mechanisms, as until now only a visual observation of the repairs has been completed. The solutions for the problems should be based on an understanding of the materiality of the walls and plasters, the causes of the deterioration process, and the compatibility of the intervention materials.

3.2.1 **Thoughts for a conservation project**

The architectural surfaces of Casa Rui Barbosa present both general and specific difficulties for their conservation and restoration. In the specific case where the house has an architectural value, a museum function, and the actual surfaces are not from the time of its construction but from later intervention (i.e. from the seventies), the conservation and restoration decisions made are very complex [4, 5]. The project should be based on a complete study to understand the whole process and the restoration principles; critical assessment is required to validate the intervention in terms of these conservation principles and to ensure that any intervention is not solely focused on minimizing the deterioration problems and attending purely to functional needs.
3.3 Questions related to authenticity, integrity, deterioration, materials and skills

In order to help format a research project for the conservation works of the architectural surfaces of Casa Rui, some questions need to be discussed in regards to:

*Authenticity and integrity*

- What are the historic and architectural values of Casa Rui and its architectural surfaces?
- Are the plasters changing the historic architectural significance and integrity of the house? Is there a need for another intervention to minimize visual problems?
- Does the building have any evidence from the former plasters that could give a key to the restoration?

*Deterioration*

- Are the plasters incompatible and causing damage? What kind of damage? Are they too impermeable, too strong?
- What is the extent of the damage?
- Will removal of the plaster damage the building? Will it be necessary to develop special techniques?
- Does the damaged render need to be replaced? Totally or partially? Using what type of technology? Will traditional technology be wise and sufficient in the future [6]?
Materials and Skills

- Is it possible to develop high quality compatible materials without experimentation?
- Are qualified builders and craftspeople easily available today and in the future for the conservation and maintenance of the structure? Is there a need to train and increase the skills level before the development of the works?

3.4 Proposal: plan for a research project

Considering the above situation the authors understand that a research project to provide sufficient and consistent information in answer to the questions, relating to the conservation of the architectural surfaces of the house and to the improvement of the levels of the work, should be developed before the final project [7]. The research project should include the following phases:

- Survey and typological analysis phase: Historic documentation, research, building inspections to identify values, materials construction techniques and construction phases, etc; typological analysis to evaluate the specific characteristics of the architectural surfaces of the house.
- Diagnostic phase: to identify and evaluate the state of conservation and problems of deterioration, incompatibility etc. using scientific methods.
- Experimental and laboratory analytical phase: to carry out material analysis (including the documentation and the compositional and physical characterization of the original materials and substrates) in order to determine the basis and the range of acceptable properties of any proposed new render; to search sources of materials and suppliers; to review the literature to assess current approaches to specification and the properties of available materials; and to develop formulations to be tested. After detailed analysis of original materials using lab methods, experimental formulations will be developed and tested in a field assessment prepared for the house.
- Training/education phase: to train a team of craftspeople and develop workshops to provide qualifications and increase the skills level of the professionals involved.
- Critical assessment and guideline phase: to review results and develop technical parameters and procedures for the conservation project and works.

4 Final considerations

During historical times the Casa Rui Barbosa was used and the architecture of the building was kept and maintained as a residence. When the house was changed to a museum, other alterations occurred, changing the architectural characteristics
of the house and the maintenance routines. Today as a result of all these changes the architectural analysis and the state of conservation of the house are more complex. The house needs to be investigated and critically assessed to form a foundation for future conservation and maintenance.

It is expected that the reflections and proposals of this paper will contribute to an increase in the conservation works at Casa Rui Barbosa as well as at other sites throughout Brazil that present similar challenges.

5 References