THE WINDOW GLASS AND STAINED GLASS WINDOWS OF BELÉM: A CULTURAL HISTORY OF THE BRAZILIAN AMAZON REGION

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INTRODUCTION

The study of stained glass windows provides important insights into many iconographic, aesthetic, and architectural phenomena. Most of the scientific data available on stained glass focus on mediaeval structures, and are derived from the extensive European cultural tradition, although there are also a few contributions on stained glass produced in the 19th century.

The data on stained glass windows from 19th century South America are extremely scarce, however. In the case of Brazil, for example, the only published studies refer to the history[1] and the iconography[2] of the nation's stained glass windows. The most prominent Brazilian studios, such as the *Casa Conrado*[3], *Casa Genta*[4], and the *Atelier Formenti*[5], are all located in the south of the country.

Additional studies describe the daily dynamics of these studios and the most frequent types of orders they received.[6] Further sources of information include the documented records of restoration programmes for historical buildings, such as Brasília Cathedral,[7] as well as the digital database on Brazilian stained glass windows produced by *Casa Genta* and *Casa Veit* in Rio Grande do Sul,[8] and a study of the preservation of the stained glass installations of the public health institutions of Rio de Janeiro[9].

There is a considerable lack of knowledge on the stained glass windows of northern Brazil, in particular those located in the city of Belém, capital of the state of Pará (Belém do Pará). This city presents a variety of stained glass found in historical buildings of a number of different types. This material has been studied in terms of its chemical composition, as well as the most common types of damage that affect its integrity.[10]

Given the paucity of these data, the present study aimed to provide the first analysis of the stained glass found in six historic buildings in Belém do Pará, which were produced by different studios. The windows date from the late 19th century to the present. The data provided by this study represent a fundamental tool for the preservation of Brazil's cultural heritage.

THE ARRIVAL OF WINDOW GLASS IN BRAZIL

While most European countries enjoyed a golden age of stained glass during the Middle Ages, followed by a late revival in the 19th century, this type of building material was only imported into Brazil for the first time in the 18th century. Window glass and stained glass from this period are found in only a small number of important buildings in the principal urban centres, in particular the country's first two capitals, Salvador and Rio de Janeiro.[11]

The production of glass in Brazil began with the inauguration of the Royal Glass Factory in Bahia, sponsored by the Portuguese Crown, in 1810. However, glass factories were only established on a large scale in Brazil at the turn of the 19th century and first half of the 20th century. These factories were implanted primarily in the southern and south-eastern regions of Brazil, initially for the manufacture of vessels, bottles, and lamps, with window glass only being produced later.[12]

Stained glass windows became widespread in buildings of the neoclassical style and more eclectic architectural designs, especially in public edifices. The artists who established their studios in Brazil came mainly from Europe, although they immediately began to employ local artisans, especially to paint the glass.

During this period, a unique Brazilian style of stained glass art, known as the 'nationalist trend', was developed. This style is characterised by the use of warm colours, the depiction of natural flora and fauna, and scenes and figures from Brazilian daily life, which distinguish it from the more traditional European themes and designs, which were reproduced extensively prior to this innovation.[13]

WINDOW GLASS AND STAINED GLASS IMPORTED TO BELÉM DO PARÁ

The arrival of stained glass windows in Belém do Pará cannot be dissociated from the history of window glass in this city because it symbolises an important socio-economic transition, not only for the city, but also the local society. During the second half of 18th century, the city's buildings were of simple construction, made of local materials,[14] in particular the windows. It was a

1 Brandão 1994, 12.
2 Marques and Naslavsky 2009, 2.
3 Mello 1996, 43; Mello 2011, 158.
4 Wertheimer 2011, 135.
5 Lima 2009, 90.
6 Wertheimer 2010, 740.
7 Paschoalin and Barbosa 2013, 47.
8 Wertheimer 2011, 96.
9 Ferrando 2014, 3.
10 Corrêa Pinto 2013, 30.
11 Sandroni 1989, 39.
12 Sandroni 1989, 48.
13 Brandão 1994, 56.
14 Spix and Martius 1938, 14–15; Wallace 1939, 137; Kidder 1972, 167; Cruz 1973, 43.

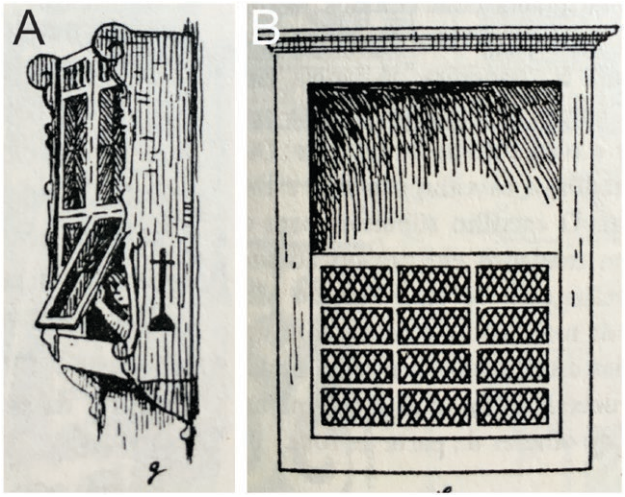

Fig. 1: Different types of windows: a) Gelosia style; b) Sash window with gurupema to obscure the view from outside.

Fig. 2: Record of the transition of the window in the same building: a) Lithography depicting the Commercial Bank, with wooden shutters, in 1867. © Centro de Memória da Amazônia. Author: Joseph Léon Righini; b) Pará State Public Archive, with flat glass in 1899. Author: Augusto Fidanza.

common practice to use a type of straw (figure 1a), known as *gurupema*, to seal the window aperture.[15]

At the beginning of the 19th century, the windows of the residences of the city's wealthiest families, called *rocinhas*, were sealed with top-hung wooden lattices, which opened outwards and shaded the interior of the building from sunlight and intense heat (figure 1b). This type of window was known as *gelosia* ('jalousie or Persian blinds'), because the residents could observe the outside world without being seen themselves.[16]

It was only in the second half of 19th century that the wooden windows of prominent buildings, such as churches and government offices, began being replaced by flat glass (figure 2). This is also when the first stained glass windows were commissioned from Europe. Due to their high cost, these windows were a symbol of luxury and power.

Subsequently, during the *Belle Époque* period, the economy of Belém benefitted from the Amazonian Rubber Boom, which led to an expansion and improvement of the urban infrastructure, including the construction of a number of small palaces in eclectic architectural styles. During this period, at the beginning of the 20th century, flat glass and small stained-glass windows were incorporated in many private properties. This material guaranteed the illumination, and thus the hygiene of the rooms, as recommended by the municipal Construction Code developed by the mayor Antonio Lemos.[17]

There are no records of local glass factories or studios producing stained glass in Belém. The glass used in the city was all imported by local firms, of which the most prominent included *Augusto de La Rocque Comissões & Consignações* and *Casa Pekin João Costa & Companhia*.[18]

Despite having been adopted in architectural designs only very recently, the city's flat glass windows often present signs of deterioration (figure 3), such as iridescent smudges, opacity or cracks, and the solution for this damage has invariably to discard the original pieces. Sometimes, not only the glass, but also the whole casing is replaced, altering the characteristics of the building and accentuating the loss of its historical value.

In the specific case of stained glass windows, the painting becomes detached in some pieces, while in others, physical damage to the lead cames also causes the glass to crack (figure 3a). Other problems include the loss of some pieces, inadequate repairs, and the development of biofilms. These problems, especially the latter one, are exacerbated by the extreme local climatic conditions, given the proximity of Belém to the equator, with constant high temperatures (27–35º C) and relative humidity (45–90 %), and frequent, intense rainfall.

THE INVENTORY – MATERIALS AND METHODS

Given the problems mentioned above, the first step towards the preservation of this heritage was to inventory the stained glass windows found in Belém, given that no systematic record is currently available. Considering the relevance of historical buildings to the architectural and cultural heritage of Belém, as well as the origin, dating, and style of their stained glass windows, six buildings with distinct architectural styles were selected for the present study, as described below.

The inventory was based on information provided by the Department of Historical, Artistic and Cultural Heritage of

15 Derenji and Derenji 2009, 79.
16 Spix and Martius 1938, 6; Bates 1944, 413; Kidder 1972, 168; Cruz 1973, 44, 185.
17 Belém 1891, 43–44.
18 Corrêa Pinto 2013, 35.

Fig. 3: Examples of damage found on stained glass windows in Belém: a) Detachment of painting – BSN; b) Physical damage to the lead casing – Britto Pontes Mausoleum; c) Missing pieces and inadequate repairs – MEP; d) Thick layer of microorganisms – Assis Chermont Mausoleum. Photographs: Corrêa Pinto.A. Correa Pinto.

the State of Pará (DPHAC-SECULT), which catalogues many different types of historical building, including ceramic tiles, and iron and stonework. This catalogue also provides general information on the building in which stained-glass windows are mounted, the dimensions of these windows and their placement or location, their characteristics and origin, their state of preservation, and damage assessment.

A total of 161 stained-glass windows were identified, and it was possible to define the installations most relevant to the present study, and select the least well-preserved windows, which were prioritised for the collection of samples for further investigation. The selected buildings were divided into three groups (figure 4) based on the type of stained glass window, as described below.

The first group comprises stained glass produced abroad. The mausoleum of the Britto Pontes (BPM) family in the Santa Izabel Cemetery has two stained glass windows produced by the Portuguese studio *A Renascença* in the late 19th century, while the *Basilica de Nazaré* (BSN) has a set of windows produced by the French studio *Champigneulle* at the beginning of the 20th century.

The second group encompasses the stained glass produced nationally. The Church of *São Raimundo Nonato* (SRN) has a set of windows produced by *Casa Conrado* in São Paulo in the 20th century. The Church of *Santo Antônio de Lisboa* (SAL) has a set of windows produced in the 21st century by the *Vitrais Geukas* studio in São Paulo.

The third group includes pieces of unknown origin, but which are believed to have been commissioned in France in the 20th century. One is a single stained glass window found in the stairwell of the *Museu de Arte Sacra* (MAS). The other is a set of four articulated windows in the stairwell of the *Museu do Estado do Pará* (MEP). Further research is required to confirm the origin of these pieces.

FINAL REMARKS

The window glass and stained glass windows of the historical buildings of Belém do Pará are a fundamentally important component of the cultural heritage of this city. On the one hand, they symbolise a prosperous period in the history of the city, while on the other, they represent different architectural styles, reflecting their adaptability, as well as the local variation in design and manufacturer.

However, the lack of local experts in the field of conservation and restoration, together with inadequate repairs and cleaning, has increased the vulnerability of this cultural heritage to the effects of weathering, and accelerated its

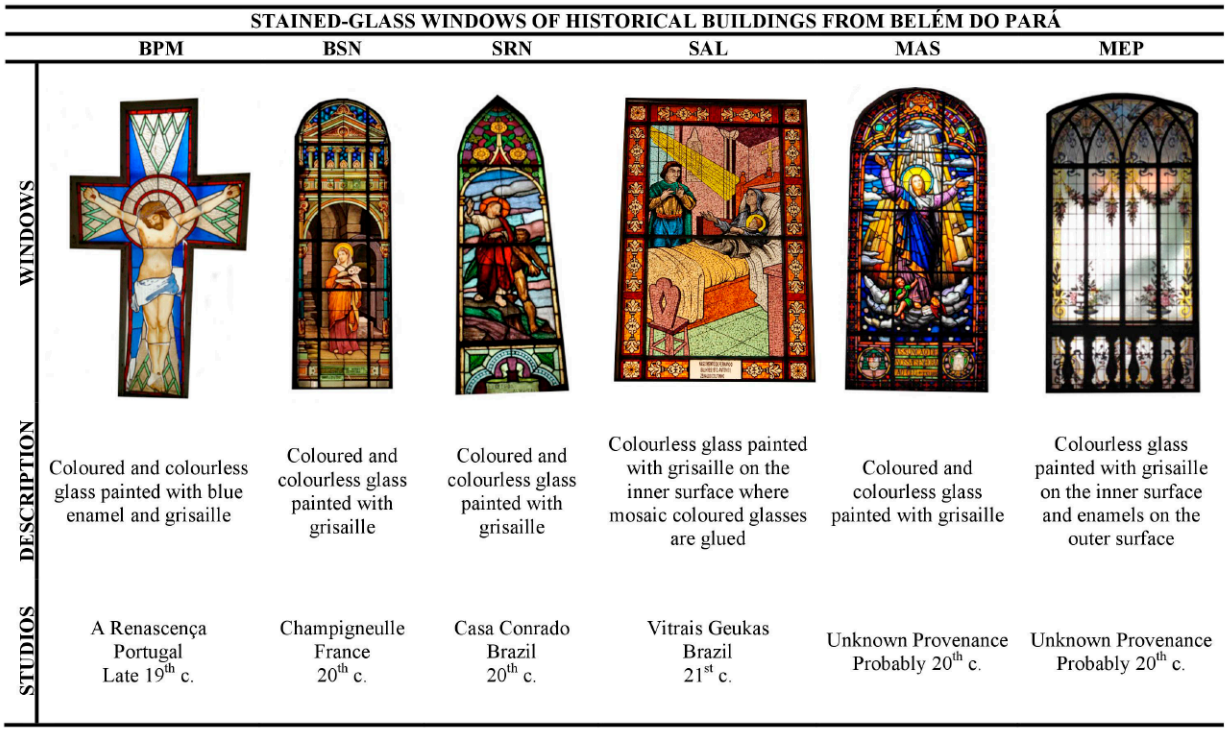

Fig. 4: The stained glass windows of the historical buildings from Belém do Pará selected for the case study. Photographs: A. Corrêa Pinto.

disappearance. In this context, the inventory presented here will constitute an essential tool for the preservation of this material over the long term, by providing a systematic record of its current state of preservation, which also serves to highlight the value of this heritage to the population of the state of Pará.

In addition to this, further research will be necessary to better understand how the exposure of the stained glass to tropical conditions contributes to its deterioration. This process is poorly documented and this knowledge will contribute to the development of effective conservation strategies for the protection of the cultural heritage of this city, which is known as the 'gateway' to the Amazon region.

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