

Sensory Perception Through Shape Analysis of the Florianópolis Museum

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SUMMARY

The Florianópolis Museum is located in the former building of the Casa de Câmara e Cadeia of the city, presenting colonial features, and later, in the early twentieth century, eclectic mentions were included. The objective of the article was to analyze the building of the Florianópolis Museum in relation to the form and the sensorial perceptions, through two on-site visits referencing the theories of Pallasmaa, for the analysis of sensorial perceptions; and Clark and Pause for the analysis of the form of the built environment and its influence on perceptions. For the Museum, the importance of the contrast between light and shade to highlight ornaments or to make the environment more intimate was perceived; of natural materials that allow an understanding of the finitude of life and the "passing of time"; of sounds and smells that recall a memory; of symmetry for the understanding of the space as a whole and of robustness for the propagation of sounds and the sensation of silence, as well as the importance of different textures for the composition of the building. Based on the analyses, it was found that there is a correlation between perception, form and function of the building, however, these are individual sensations and experiences. The experience of the collective influences the individuality of the being, as much as the choices of each one modify the collective scenario.

KEY WORDS: Sensations. Form. Building.

1 INTRODUCTION

The Florianópolis Museum, the former Chamber and Jail, is located in the city center, in front of Praça XV de novembro and on the corner of Rua Tiradentes (VEIGA, 1993; REIS, 2008). In February 1771 was decided to build the Town Hall and Jail of the Village of Nossa Senhora do Desterro (as the island of Santa Catarina Florianopolis was called) after intense exchange of correspondence between the Ombudsman and the Board, being the responsible designer Thomaz Francisco da Costa. The work began in 1771, and was completed after nine years and ten months, then inaugurated on November 29, 1780 (REIS, 2008).

According to Lusitanian traditions, the upper floor of the building was used as the Judicial Courts, while the jail was on the first floor. The building had typically Portuguese characteristics that have been undergoing changes over the years, losing the colonial features and, in 1895 began to present eclectic features of the late nineteenth century and early twentieth century. In the 1930s, the jail was removed and became only the Town Hall (VEIGA, 1993).

Pallasmaa (2011) highlights that architecture allows a multisensory relationship with the individual, and each building has its own characteristics that can provide different sensations (hospitality x hostility, invitation x prohibition). This article aims to analyze the Museum of Florianópolis in relation to the form and sensory perceptions, since it was a political and isolation environment (also a jail), and currently it is a space of visitation.

The methodology consists of an observational and descriptive research with on-site visits with analyses of perceptions and form based on Pallasmaa (2011, 2013) and Clark and Pause (2012). The on-site research consisted of two visits, on different days and times. In the first visit on May 13, 2022, at 10 am, the sensations, smells and sounds were experienced, and verified through feeling the way the space presents itself - hostile or inviting. In the second visit, May 30, 2022, at 11am, the relationship between sensations and the environment was observed to verify if there is a correlation between the built form and the perceptions experienced in the first visit.

Based on Pallasmaa (2011, 2013) the analysis was done through sensory perceptions, such as sight, touch and smell, and Clark and Pause (2012) with analysis of these perceptions linked to the building form (structure; daylighting; mass; plan-cut-facade relationship; circulation-use relationship; unit-set relationship; repetitive-singular relationship; symmetry-equilibrium; geometry; addition and subtraction; hierarchy and party).

2 THEORETICAL FOUNDATION

Hall (1977) investigated the relationship of space with individual, in order to understand how this space influences the perception and daily life. For this, the author brings the need to understand the receptor systems of the human being, which is subdivided into distance receptors (eyes, ears and nose) and the immediate receptors (touch). The visual, auditory, olfactory and tactile space are important mechanisms in the human being's daily life. According to the actor, visual space collects varied information on a larger distance scale than auditory information, which makes visual information less ambiguous and more evident, except for a blind person, who can locate objects through audio frequency. For Tuan (2015), although the eyes can capture more details and information about the space, the human being is sensitized by sound, such as the sound of rain, a song or even a cry.

The olfactory space plays a significant role in remembrance, it is a receptor that is related to chemical nature. Each place has characteristic smells and odors, and the smells allow the person to situate themselves in space and cause sensations (HALL, 1977; TUAN, 2015). The tactile space is intrinsically linked to visual experiences, enables individuals to have active experiences and feel textures, aspects that have been abandoned by planners and engineers (HALL, 1977). For Tuan (1983, p. 14):

Taste, smell, skin sensitivity, and hearing cannot individually (nor even perhaps together) make us aware of an external world inhabited by objects. However, in combination with the "spatializing" faculties of sight and touch, these essentially non-distancing senses greatly enrich our apprehension of the spatial and geometric character of the world.

Tuan (1983) highlights that planners have the urgency to act, consequently eliminating possible experiences that the individual may have about the space.

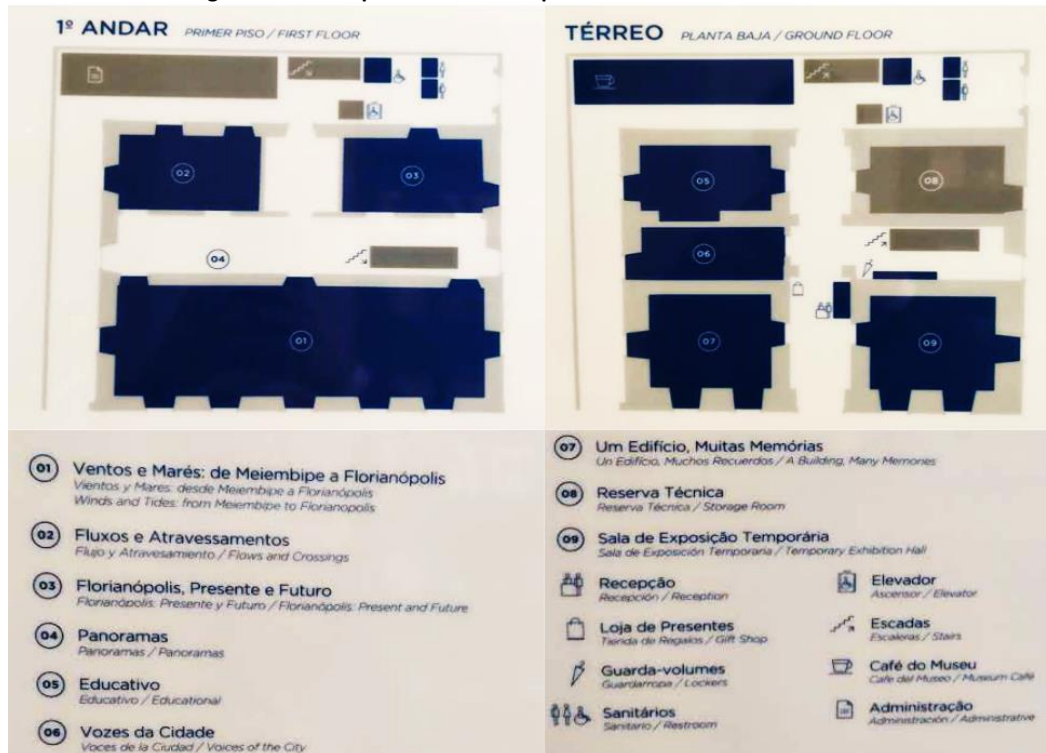
3 RESULTS AND DISCUSSIONS

Contemporary cities present neglects in relation to the human senses, given the superficiality of the constructions and loss of plasticity of the buildings (PALLASMAA, 2011).

For the operation of the Florianópolis Museum was necessary a restoration project, completed in 2019, with the inauguration in November 2021 due to the pandemic. On the first floor there are three exhibition rooms; an educational room, for workshops and lectures; and a room for the technical reserve. On the upper floor there are three exhibition rooms and a

corridor for exhibitions with interactive screens. The annex block houses the cafeteria, bathrooms, elevator and the museum's administrative room¹ (Figure 1).

Figure 1: Florianópolis Museum map board made available to visitors



Source: COLLECTION OF THE AUTHORS, 2022.

Pallasmaa (2011) deals with the senses and their ability to arouse sensations and perceptions. The eye distances, separates, as well as analyzes, controls and investigates; touch allows proximity, intimacy and affection; sound incorporates, as well as, structures the experience by provoking sensations; smell evokes a memory and taste allows colors and delicate details to cause oral sensations.

Architecture can be seen as images of action, a door can indicate an invitation or prohibition, a staircase indicate to go up or down, the window has the power to frame a landscape and allow the interior/exterior vision. The same occurs in relation to light and shadow, a blinding light with the goal of frightening or a less intense light with the goal of sharpening creativity (PALLASMAA, 2013). Architecture can provoke different perceptions according to the proposed goal.

During the visit to the Florianópolis Museum, it was possible to capture sensations and perceptions in relation to the shape of the building. The sensations that the colors and textures provoke and understand how the form enables the circulation and illumination of the environments. Thus, first the images of action and sensations will be presented, and finally the analysis of the form combined with the identified perceptions.

¹ Information about the Florianópolis Museum is available at <<https://www.sesc-sc.com.br/museudeflorianopolis/sobre/o-museu-de-florianopolis>>. Accessed June 10, 2022.

As action images, three elements were evidenced during the visit: doors, windows and stairs. The visitation to the museum may or may not be guided, so it is up to the visitor to walk through the space and decide which rooms to enter. Therefore, the doors that were open had an inviting meaning and the closed doors had a prohibitive meaning (Figure 2).

Figure 2: Closed and open door of one of the exhibition rooms

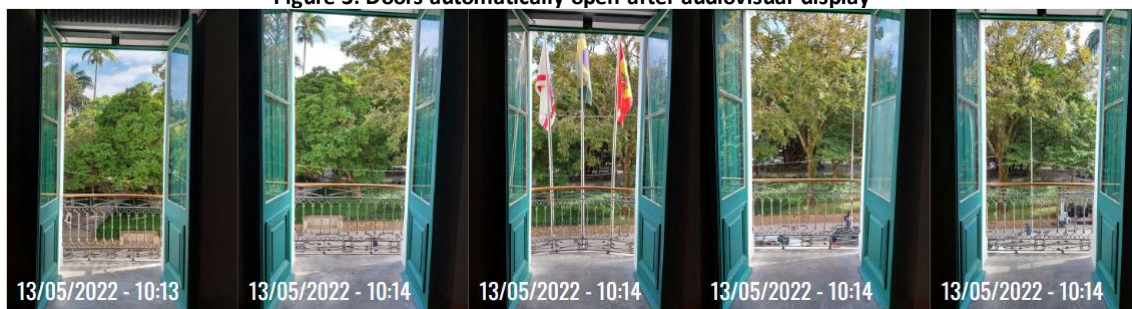


Source: COLLECTION OF THE AUTHORS, 2022.

Because it is a museum that uses technological elements, such as interactive screens and slides, the windows were closed, even so, the light gaps that passed through the windows and wooden doors didn't make the environments uncomfortable or cause a sense of fear of what was not being seen.

In one of the exhibition rooms a dynamic is performed where the doors open after the audiovisual presentation in order for visitors to observe the outside, which allows them to view the XV de Novembro Square and the street (Figure 3). This possibility of observing what the doors hide, takes us back to the present and this moment provides the opportunity to observe the animation of people at the moment of opening the doors, which leads to question what is the importance of a door and window, and what is the need to look outside. Pallasmaa (2011) highlights that the quality of a window is related to the possible form of the view from outside and inside and how it animates the space. The interesting of this dynamic of opening the doors of the museum is to experience this moment of euphoria and excitement of visitors to look outside, despite the space to be observed was a place of transition and passage to enter the museum.

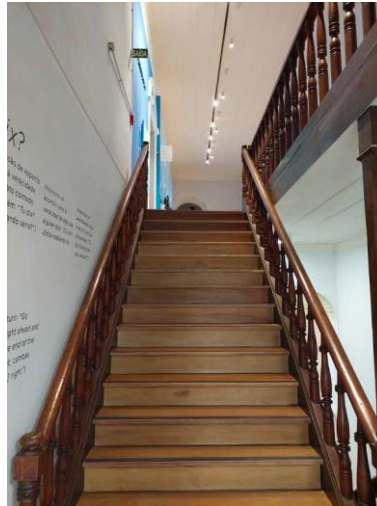
Figure 3: Doors automatically open after audiovisual display



Source: COLLECTION OF THE AUTHORS, 2022.

Another image of action verified in the museum is the staircase, as an integral part of the dynamics of the museum with popular sayings on the walls (Figure 4). In this process of going up and down the stairs there is the characteristic smell of wood, which reminds us of historic buildings. Pallasmaa (2011) points out that aromatic spaces allow us to remember the past. Therefore, by feeling the smell of wood combined with the sound of footsteps, it is possible to remember an old house, like the house of a grandmother, aunt or great-grandmother.

Figure 4: Museum staircase with popular sayings on the walls



Source: COLLECTION OF THE AUTHORS, 2022.

The windows remained closed, with some light gaps and light entering through the glass part. And the light entering through the door of the front and rear facade left the environment with high contrast between light and shadow (Figure 5). For Pallasmaa (2011) the shadow has significant importance in the imagination and by forcing us to use peripheral vision. On the second visit to the Museum, first the upper floor was visited, where the lights are dimmer and more directional, and by staying in this space and then going downstairs where the lights were stronger, there was blurring of vision.

Figure 5: Entry of daylight into the building. (A) Glass in the upper part of the window (B) View from the back door to the main façade door



Source: COLLECTION OF THE AUTHORS, 2022.

The lighting plays a key role within a building, the behavior of the lighting on the facades causes different sensations. On May 13, 2022, it was a sunny day, so it was observed the dynamics of the lighting on the front facade, the sun gave a highlight to the ornaments and colors of the museum, which made it more visually attractive. And on May 30, 2022, it was a cloudy day, there was no highlight on the facade of the elements, the colors were less vivid and there was not the relationship of light and shadow (Figure 6)

Figure 6: Natural lighting on the main façade. Left picture on a sunny day and right picture on a cloudy day.



Source: COLLECTION OF THE AUTHORS, 2022.

The lights and shadows allow for distinct sensations when being in a space, the sounds are also characteristic of each location (PALLASMAA, 2011). In the Florianópolis Museum there are sensory experiences, either through artificial or real sounds. In one of the rooms there are bird sounds that at first seem like an external sound and in another room there are sounds of storm and sea along with the video about the history of settlement of Florianópolis, precisely to emerge the individuals to the moment.

About the actual sounds, you can hear the sounds of footsteps in the wood and the conversations between the rooms, "feel" the silence. As before it was a jail and people heard a lot of screams and noises, as mentioned in one of the videos exposed in the museum about the history of the old Town Hall and Jail. One can see how a hostile environment became inviting and transmits feelings of tranquility through the change of function of the building.

In relation to tactile stimuli, the museum combines various uses of materials, such as wooden, concrete, metal and stone floors (Figure 7), enabling the individual to feel various textures and for Pallasmaa (2011, p.55) "[...] we follow the density and texture of the floor through the soles of our feet".

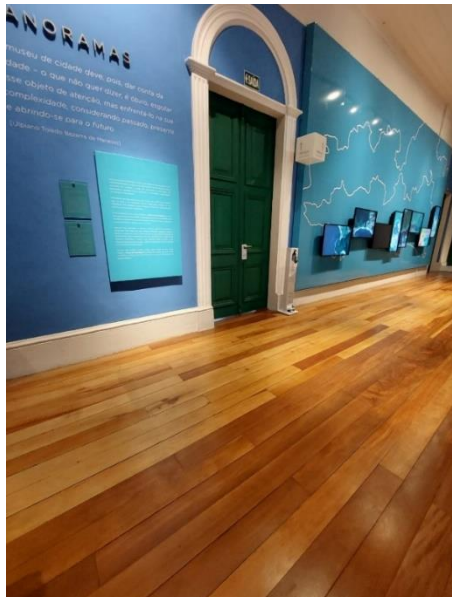
Figure 7: Different textures and materials on the floor



Source: COLLECTION OF THE AUTHORS, 2022.

Colors are used in specific ways, the doors and windows are painted green and stand out from the white of the wall. Some walls are painted blue or blue panels are used, as in the corridor of the upper floor (Figure 8), which highlights the interactive screens. The combination of colors serves, then, to highlight something, and favor the sensations of welcome and tranquility to the space.

Figure 8: Circulation of the upper floor highlighting the colors used

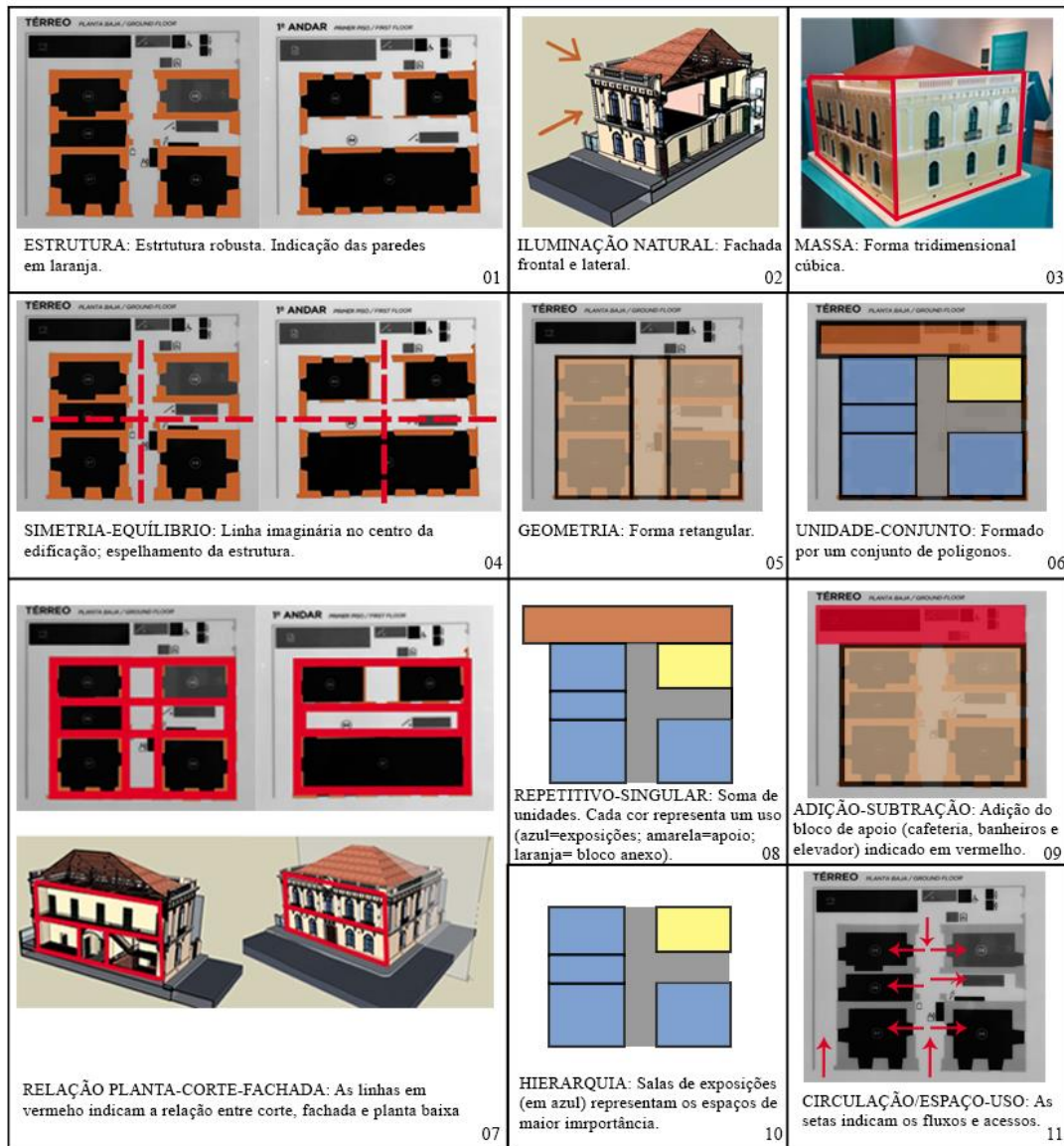


Source: COLLECTION OF THE AUTHORS, 2022.

What does form influence this aspect? Clark and Pause (2012) are authors who developed a method of form analysis based on twelve characteristics of the building: structure; natural lighting; mass; plan-cut-facade relationship; circulation-use; unity-set; repetitive-

singular; symmetry-equilibrium; geometry; addition and subtraction; hierarchy and party. In relation to the party, initially the space was thought to be the city's Chamber and Jail House, where it was not necessary to have a complex form, but one that met the needs of the time with characteristics of colonial buildings and, currently, the spaces have been adapted for the museum's activities, respecting the shape of the building. In Figure 9, there is a set of images that allow observing the analysis of the form made from the method of Clark and Pause (2012).

Figure 9: Analysis of the form of the Florianópolis Museum



Source: ELABORATED BY THE AUTHORS, 2022.

Note: 3d model (Box 2 and 7) from the Urban Planning Institute of Florianópolis. Available at <<https://www.pmf.sc.gov.br/entidades/ipuf/index.php?cms=casa+de+camara+e+cadeia&menu=4&submenu1>> Accessed on 05/29/2022.

Box 1, 4, 5, 7, 9 and 11: Authors' photo of the museum's map board.

Photo of the maquette (chart 3): collection of the authors.

The symmetry and arrangement of the windows and doors generate contrasts in light and shade, as is perceived on the first floor with the front and back doors, where the individual

understands the circulation area and the use of the spaces, each room being an exhibit or specific activity, therefore the simple shape (square) allows a quick understanding of the place.

The structure of the building is robust with natural materials such as stone and wood, in addition to ornaments on the facade which reminds us of a historical building, on the other hand, in the annex built, there is the use of glass and metal structure, which highlights that that part of the building is not from the same period (Figure 10). The use of natural materials evokes a sense of finitude, of the natural cycle of life with a beginning, middle and end.

Figure 10: View to the annex with another material composition (glass and metal structure)



Source: ELABORATED BY THE AUTHORS, 2022.

The auditory stimuli are experienced because of the robustness and high ceiling height of the building, allowing visitors to experience silence when there are few people, as well as the propagation of the sounds of audiovisual exhibitions. However, in some moments when more concentration is needed to read the texts, the large spaces - such as the corridor on the second floor - make reading slower, an aspect mentioned by Hall (1977).

4 FINAL CONSIDERATIONS

Because this is observational and descriptive research, based on individual perception of the researcher, there is another important aspect that can influence sensations - experience. Like a bad individual experience in that space, or a smell and sound triggering unpleasant memories or traumas. Several factors can influence how a person views the place.

However, after feeling and experiencing the building and performing a form analysis based on Clark and Pause (2012) one can see that there is a correlation between perception,

form and function. Form makes it possible, for example, for lighting and sounds to be presented in different ways in the building, and function influences the perception of a hostile or inviting space (once a jail and now a museum).

It is interesting to mention the need for the plasticity of the buildings, as they allow individuals to experience the senses. Historic buildings tell the story of the place and have the ability to make the individual experience textures, smells and sounds (PALLASMAA, 2011, 2013).

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